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USSR Report

AGRICULTURE



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15 AUGUST 1986

USSR REPORT AGRICULTURE

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MAJOR CROP PROGRESS AND WEATHER REPORTING

EARLY HARVEST REQUIRES CAREFUL MECHANIZATION

LD251552 Moscow Domestic Service in Russian 0100 GMT 25 May 86

[Text] One of the main features of the forthcoming harvest, according to specialists at the state agro-industrial committee, is the fact that it will begin somewhat earlier than usual. At the moment, as inspections of the areas sown show, winter crops, as well as spring grain crops sown at the start of the season, are growing 10-15 days earlier than usual. This requires an accelerated preparation of machinery for the harvest. Combines in the country as a whole, as shown by statistical data, are being made ready somewhat faster than in past years. However, many of them await repairs for the time being and although some 800,000 combines will be taking part in the harvest overall, it is very important that the load on each one of them be as small as possible. This will cut down on harvesting time. For this absolutely all combines available on farms should be working. Last year, for example, average times for grain harvesting were not less than three weeks--twice as great as the optimum. For the time being, the standing idle time of harvesting machinery during the harvest is still great because of breakdowns; this noticeably reduces the average daily output of each unit. It must be noted that this year for the first time 200 new don combines will be taking part in the harvest. They will undergo another thorough field trial before mass output of this machine begins.

Another important feature of the harvest time is that grain sown with intensive techniques will be harvested on many fields: 31 million hectares of fields are being set aside for it throughout the country. The increase in the harvest from them should be 26 million metric tons of grain. The point of intensive techniques is to fully satisfy all the biological requirements of the plants, to provide them with a full quota of minerals and essential care, and to protect them from pests and diseases. Intensive techniques also include an active struggle against weeds. The young winter crops look significantly neater at the moment than in past years.

A great deal of work has been done on the spring crop area as well. In the country's eastern areas, in order to protect grains from the hardened wild oat weed, herbicides will be introduced during sowing for the first time over a large area. All this will make it possible to obtain weed-free crop areas; this should also affect harvest rates.

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CSO: 1824/391

MAJOR CROPS PROGRESS AND WEATHER REPORTING

CSA REPORTS ON SPRING SOWING PROGRESS

22 May

LD221531 Moscow Domestic Service in Russian 0200 GMT 22 May 86

[Text] The USSR CSA reports that by Monday, 19 May, spring crops had been sown in the country on an area of 94.8 million hectares, including grain and pulses--except corn--occupying 51.6 million hectares. More potatoes and vegetables have been sown than last year. The sowing campaign has begun and grown in pace in the east, too. A third of our grain area is situated here, beyond the Urals, and good news is coming in at this time.

28 May

LD290722 Moscow Domestic Service in Russian 1500 GMT 28 May 86

[Text] The USSR Central Statistical Administration [CSA] has made a report on the progress of sowing in the fields of the country. By 26 May, spring crops had been sown in the country on 118,300,000 hectares or on 83 percent of the area allocated to them. This includes grain and pulse crops not including corn, which has been sown on 81 percent of the area. In the past week, spring crops have been sown on 23.5 million hectares. This is the greatest increase of all the spring weeks. It is understandable too; the farmers of our largest granaries in the east of the country are sowing, while in the south the harvest is already underway. For example, the farmers of Turkmenistan have taken grain harvesters into the fields and have started threshing cereals.

Also going ahead is forage harvest and the laying in of fodder. Thus, in the Kuban, in Krasnodar Kray a month of shock work has been announced. Farmers must harvest a first crop of perennial grasses and winter crops for green fodder on an area of over 500,000 hectares. This is more than last year. The boundaries of the fodder fields have been enlarged in many other regions of the country.

29 May

LD291025 Moscow Domestic Service in Russian 0400 GMT 29 May 86

[Text] As of 25 May, various spring crops have been sown on over 119 million hectares on the country's collective and state farms; the sowing plan has been fulfilled by 83 percent. This was reported by the Central Statistical

Administration [CSA]. The main work front is now in the east, in Siberia and northern Kazakhstan, where there has been abundant precipitation over the past weeks; this has created favorable conditions for obtaining shoots. However, the abundance of moisture is hindering the use of machinery on extensive areas and work has to be carried out selectively on many fields. Nonetheless, sowing rates are fairly high. At the same time, haymaking is underway in the southern areas; the acreage from which grasses have been harvested already totals millions of hectares.

Sowing Nearing Completion

LD302033 Moscow Television Service in Russian 1430 GMT 30 May 86

[From the "Vremya" newscast--announcer-read report]

[Text] Spring grain sowing is coming to an end across the country. The USSR Central Statistical Administration reports that by 26 May, 118.3 million hectares [ha] had been sown to spring crops--83 percent of the total area set aside for such crops. This includes 69 million ha of pulses and legume crops. Vegetables and potatoes had been planted on 3.8 million ha. Fallow land is being plowed on many farms.

5 June

LD050457 Moscow Domestic Service in Russian 0204 GMT 5 Jun 86

[Text] The USSR Central Statistical Administration reports that by 2 June spring crops were sown in the country on an area of 135.3 million hectares. The last thousands of hectares are being sown by the farmers of the northern and northwestern economic regions, Zauralye, Siberia, and Kazakhstan. On the meadows and the feed field, haymaking has already started. In the first cut, sown and natural grasses were harvested from an area of 5.1 million hectares.

Work In Progress

LD121100 Moscow Television Service in Russian 1700 GMT 11 Jun 86

[Announcer-read report; from the "Vremya" newscast]

[Text] The latest USSR Central Statistical Administration report on the progress of field work in the country has been compiled. Spring crops have been sown on an area exceeding 141 million hectare [screen caption reads: 141,200,200 hectare]. This is 99.5 percent. Grain crops and pulses (except Maize) have been sown on nearly 100 million hectare. [screen caption reads: 99,800,000 hectare] Sunflower, sugar beet and cotton sowing is complete. Grasses have been cut on an area exceeding 9 million hectares. Over 4 million metric tons of hay [screen caption reads: 4,200,000 metric tons] and over 8 million metric tons [screen caption reads: 3,100,000 metric tons] of laylage have been procured. Haymaking is proceeding at a faster rate than last year, yet the USSR Agroindustrial Complex Committee considers it is possible and necessary to achieve an even greater rate of acceleration on the meadowlands.

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CSO: 1824/391

MAJOR CROP PROGRESS AND WEATHER REPORTING

SILAGE CORN PRODUCTION, RESERVES FOR IMPROVEMENT IN KAZAKHSTAN

[Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 11 Jun 86 p 2

[Article by N. Metelkina, senior oblast agroprom specialist, Tselinograd Oblast: "Corn in the Virgin Lands"]

[Text] Although Tselinograd Oblast is constantly expanding planted area and raising the yields of perennial and annual grasses, including those with high protein content, corn as a silage crop is the foremost feed crop. It covers more than half of the feed crop area.

The farms usually lay in more than 2.5 million tons of silage, but this year at least 2,869,000 tons is to be laid in. This is a large figure, but the area planted to silage crops is substantial -- about 378,000 hectares. This figure increased almost 81,000 hectares during the 11th Five-Year Plan.

We can no longer view expansion of the area planted to corn as the primary reserve for increasing feed production. Just as in grain production, it is now something else -- using intensive technologies for raising this crop. In general, of course, highly efficient technologies have long been known and widely applied, but they require refinement in the sense of working out their elements -- soil preparation, plant management, use of mineral fertilizers and herbicides, and introducing the highest-yielding regionalized varieties.

Last year the yield of bulk corn greens per hectare averaged 87 quintals in the oblast, and 54 farms got more than 100 quintals. There were cases where a hectare produced 200-250 and more quintals of bulk greens. Raising yields to at least the average level is the real reserve on which we can and must figure in the future.

There is another reserve -- raising corn on irrigated land, where it is capable of giving high yields. Farms of the oblast are raising corn on 7,600 hectares of irrigated land this year, one-third more area than in 1981. The technology for raising corn on irrigated land still has not been worked out in full detail at all the farms, but even so the average yield last year was 220 tons of bulk greens, while the farms in Tselinogradskiy Rayon got 252 tons, in Marinovskiy Rayon 260, and in Shortandinskiy Rayon -- 284 tons. There are farms such as the Andreyevskiy and 40 Let Kazakhstana sovkhoses which produce 500 tons per hectare and still do not feel this is the limit.

In short, our corn plantings are becoming more productive every year.

Needless to say, the corn growers do have their problems, and the solutions do not depend on them. I would like to talk about one of them in more detail. This is the question of varieties and seed. Oblast farms generally plant medium-early varieties and hybrids such as Dneprovskiy-247, Odesskiy-80, and Zherebkovskiy-86. They occupy slightly more than half of the plantings, while one-third is given to medium-late Krasnodarskaya 1/49, which seldom forms ears under our conditions and therefore has lower output of dry matter and less nutritious silage. The virgin land farmers need early and medium-early varieties. The seed-growing farms should take this into account.

There is another aspect of this problem. The corn growing season is limited by early fall frosts. Therefore it is very important when raising corn for silage to select the correct harvest time. Machine operators try to harvest the fields a little early, before the expected frosts which come in September but fairly often occur even in the second 10 days of August. This is exactly the time, however, when intensive accumulation of bulk greens and nutrients occurs. So it turns out that the farms, trying to harvest the fields before the frosts, fail to get a significant amount of the crop. Furthermore, the quality of the silage is worse with an early harvest because the bulk greens contain at least 80-85 percent water. To receive high-quality corn silage it should be harvested in the milk-waxy stage of ear formation. An increase in the proportion of grain weight in the dry matter improves the nutritional value of the silage.

But why are the machine operators afraid to let the corn stand until the frosts? After all, it only loses leaves, but the quality of the feed does not suffer from this. On the contrary, it improves because of the ears. The point is that in this case they lose some bulk green volume, and this is the indicator that is used for all accounts with them. It follows that the basis for calculations with machine operators should not be yield of bulk greens, but rather output of dry matter with an optimal moisture level of 70-75 percent. Then what is laid in the silage trenches will be not water but dry matter, and as a result high-quality silage will be produced.

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CSO: 1824/363

MAJOR CROP PROGRESS AND WEATHER REPORTING

BRIEFS

CORN PLANTING IN SOUTH KAZAKHSTAN--Large-scale corn planting is underway in South Kazakhstan. Corn is being planted on 72,000 hectares of irrigated land this year. The farms of Kzylkumskiy Rayon are making notable progress in corn growing. As the result of introducing new lands and improving old lands they were able to enlarge corn plantings to 20,000 hectares. Whereas sheep raising used to be the leading sector there, the rayon has now become a major supplier of commodity and seed corn. Suffice it to say that each year it sells the state 50,000 tons of grain or more. All farms of the rayon significantly overfulfilled the assignment for the last five-year plan. The challenge for the corn growers in the new five-year plan is not just to consolidate, but also to surpass their former results. And they are focusing here on maximum use of reserves for raising the output from irrigated land. Already this year the growers of Kzylkumskiy Rayon intend to get 50 quintals of grain per hectare and increase sales to the state to 60,000 tons. "We began laying the foundation for the future crop last fall," says M. Dairbayev, deputy chairman of the RAPO [rayon agroindustrial association]. "We did fall plowing on all planted areas. We conducted water recharging in the fall-winter and early spring periods, and prepared the equipment, seed, fertilizer, and herbicide ahead of time. Then as soon as the soil was ready organized planting began." About 130 aggregate units are working in fields of the rayon today. The planting is being done by precision planting machines. Mineral fertilizer is being applied together with the seed. [by Yu. Livinskiy][Text][Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 14 May 86 p 1] 11176

CORN PLANTING IN KZYL-ORDA OBLAST, KAZAKHSTAN--The corn growers of Terenozekskiy, Dzhalagashskiy, and Chiiliyskiy rayons completed planting in a very short time. Moreover Terenozekskiy Rayon, for example, was able to plant grain corn on an area of 1,500 hectares compared to the 600 planned. But corn is not being taken seriously everywhere. The farms of Syrdarinskiy, Karmakchinskiy, and Kazalinskiy rayons have draged out planting. For example, the sovkhoses of Kazalinskiy Rayon have planted 900 hectares, while in Karmakchinskiy Rayon they have planted 500 instead of 700, and the sovkhoses of Syrdarinskiy Rayon have planted the same instead of the required 990. It is not accidental that the yield of grain corn at some of the sovkhoses and kolkhozes of these rayons last year was just 1-7 quintals per hectare. What will it be this year? All the same, the operational data arriving at the oblast agroindustrial committee and its headquarters for monitoring grain corn production indicates that the overall situation is promising. Specific measures have been developed in the oblast to increase

corn production. They are being put into practice. [by B. Bektegov][Excerpt]
[Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 31 May 86 p 2] 11176

CORN PLANTING BEGINS IN CHIMKENT OBLAST--Chimkent--The farms of Chimkent Oblast have begun large-scale planting of grain corn. Production of this crop has been assigned to subdivisions that have been switched to collective contracts. They have all been provided with technical equipment needed to employ intensive technology. [Text][Moscow SELSKAYA ZHIZN in Russian 9 Apr 86 p 1] 11176

CORN PLANTING IN SOUTH KAZAKHSTAN--Corn has been planted on more than half of the area allocated for this crop in South Kazakhstan. In all it will occupy more than 72,000 hectares at farms of the oblast [Chimkent]. Of this 38,500 hectares will be planted in corn for grain. A large share of the corn today is being raised by industrial technology. The first to finish the corn planting were the farms of Kirovskiy and Pakhtaaralskiy rayons. The corn growers of Kalesskiy, Sayramskiy, and other rayons will finish soon. [by L. Yuryev][Text]
[Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 4 May 81 p 1] 11176

FALL PREPARATION FOR PLANTING--Alma-Ata (TASS)--The farmers of Kazakhstan have chosen in favor of the industrial technology for corn production. They carried out fall preparation of the soil for the 1986 harvest on the entire area to be planted in grain corn -- 150,000 hectares -- with due regard for the new requirements and scientific recommendations. [Text][Moscow SELSKAYA ZHIZN in Russian 16 Nov 85 p 1] 11176

CORN PLANTING COMPLETED IN KIRGHIZIA--Frunze--Kirghiz farmers have completed planting corn being raised by the industrial technology. More than 60,000 hectares of arable land will be planted in the high-protein crop this year. The kolkhozes and sovkhoses plan to harvest most of the crop in the milk-waxy stage and lay it in special trenches. [Text][Moscow TRUD in Russian 5 Jun 86 p 1] 11176

CORN CROP IN KIRGHIZIA, PROBLEMS PREVIEWED--Many teams know very well that corn is one of the few crops for which first-generation seed is used for commodity fields. This makes seed growing more complex and makes the cost of the seed tens of times greater than for other crops. Nonetheless, most of the kolkhozes and sovkhoses in Osh Oblast and the Chuy Valley overestimate the seed grain planting norms, even though the quality of the planting material is good. The corn planting norm for bulk silage is particularly overestimated each year in Issyk-Kul Oblast. Many farms use up to 50 kilograms of Krasnodarskiy 4 TV hybrid per hectare, or 150,000 kernels as opposed to 85,000. As a result they harvest stalks with a high moisture content and practically no ears and a low content of dry matter in total weight, which reduces the nutritional value of the silage. Scientific studies have established that it is advisable to plant 72,000-78,000 kernels of the Yugoslav hybrid per hectare in order to get optimal denseness. This will result in 55,000-60,000 plants per hectare. With Kirghiz bred hybrids it is recommended to plant 85,000-91,000 kernels to get 65,000-70,000 plants per hectare. Because 1,000 kernels of the Yugoslav hybrid weigh 309 grams and 1,000 kernels of the Kirghiz hybrid weigh 320 grams, the planting norms should be, respectively, 22-25 and 27-30 kilograms. Weather conditions this spring were such that planting and field management have to be done together. Therefore,

it is very important to arrange the personnel and equipment in such a way as to fit the jobs into a short time period, preserve moisture in the soil, and set up vegetative waterings. [Excerpt][Frunze SOVETSKAYA KIRGIZIYA in Russian 11 Apr 86 p 1] 11176

KIRGHIZ CORN CROP VIEWED--Livestock farmers have great hopes for corn. It is expected to give them both grain and full-value silage. In recent years many kolkhozes and sovkhoses have learned to preserve ears and use them for making combined silage. This year 147,370 hectares are being allocated for corn, including 54,973 for grain corn. A significant share of this area will be cultivated by intensive technology. This will make it possible to receive an additional 35,000 quintals of grain. Unlike past years, it has been decided this year to raise corn for grain at certain farms in Issyk-Kul Oblast and Kirovskiy Rayon. The Moldavskiy-330 M medium-maturity variety has been imported for this. Corn planting is now in full swing in many rayons of Osh Oblast, and seeds are being planted in the soil in Moskovskiy and Issyk-Atinskiy rayons. But the farmers of Kalininskiy, Sokulukskiy, and Panfilovskiy rayons are falling intolerably behind. [Excerpt][Frunze SOVETSKAYA KIRGIZIYA in Russian 18 Apr 86 p 1] 11176

DROUGHT IN UZBEKISTAN--In Kashka-Darya Oblast of Uzbekistan, drought is making things difficult for the cotton-growers. The rivers have dried up, the water reservoirs are exhausted, and the level of underground water is falling lower and lower. It is the worst drought seen for a long time. At Pachkamar Water Reservoir, the remaining water will only be enough for a single watering. Several thousands of hectares in Guzarskiy rayon alone have become useless for growing cotton. Livestock farming has been especially hard hit, and the cattle are being driven to the hills. In many rayons of the oblast, the situation is very serious, but the farmers are doing all to fulfill their pledges. Drillers from many other oblasts are helping out. [video shows parched landscapes, reservoir, cattle on the move, irrigation pipes and water being pumped by hand on a named farm]. [From the "Vremya" Newscast] [Summary] [Moscow Television Service in Russian 1430 GMT 20 Jun 86 LD] /12913

CSO: 1824/391

LIVESTOCK FEED PROCUREMENT

AZERBAIJAN FEED PRODUCTION LAG CRITICIZED

GF021140 Baku Domestic Service in Azeri 0105 GMT 2 Jul 86

[Text] An enlarged meeting of the Azerbaijan Communist Party Central Committee Bureau yesterday discussed the question of additional measures for increasing the pace of heaping straw and procuring fodder in accordance with the recommendations of the 27th CPSU Congress. The status of work carried out in fodder production was discussed in depth and concrete measures were established for dealing with the lag in procuring fodder products.

Furthermore, the leading officials of party, Soviet, and economic organs and the agro-industrial unions, who have allowed backwardness in rayons in this important domain in agricultural work, were severely criticized. They were called upon to take effective measures to increase the pace of procuring fodder, achieve a positive turning point in work, remove deficiencies obstructing an improvement of work output in work sites, and establish a credible approach toward the work required to deal with the procured fodder plants.

It was noted that the trade unions, Komsomol organizations, and the people's control organs have not been demonstrating the required concern over the situation that has emerged in fodder procuring, nor have the party committees been demanding enough. They are inadequately using opportunities for creating suitable conditions for production and for consolidating discipline and rules and regulations for attracting free work resources and youths toward fodder procuring, organizing the socialist competition, and securing an improved fodder quality within the framework of high work productivity.

Comrade Bagirov, first secretary of the Azerbaijan Communist Party Central Committee, summed up the meeting.

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CSO: 1831/436

LIVESTOCK FEED PROCUREMENT

CENTRAL ASIAN REPUBLICS 'LAGGING' IN FEED HARVESTING

LD031737 Moscow Television Service in Russian 1430 GMT 3 Jul 86

[Video talk by political observer Anatoliy Ivashchenko entitled "Concern for the Feed Fields"; from the "Vremya" newscast]

[Text] As reported yesterday, more than 30 million hectares of grasses were reaped by the end of June. This is 2.2 million hectares more than last year, with 5.5 million metric ton more hay than last year, a pace never before achieved.

To look at indices in light of the new 5-year period's requirements, it is pleasing that by July, Lithuania completed the first cut on its entire area, producing 96 percent of farms' requirements for hay, with Belorussia also working well. Kazakhstan, however, is lagging behind last year by 500,000 hectares, with Tajikistan and the RSFSR Chernozem region also down. What is logic behind the fact that, in comparison with Lithuania, where everything ripens later, half as much has been reaped from the warm fields of Kursk and Lipetsk? Things are no better in the vast Urals area: On the eve of July, Orenburg has only managed to complete the first cut on one-third of the area, 200,000 hectares less than last year. Chelyabinsk Oblast and Bashkiriya are even less productive.

The state of affairs with the fodder base in Uzbekistan, Turkmenia, Kirgizia, and Tajikistan is not a new issue, but one comes back to it repeatedly. The rule of tending feed in the same manner as grain is not familiar in the central Asian republics. Belorussia and Lithuania do not have their abundant sunshine or vast areas of irrigated land, yet there the fields are being harrowed and fertilized to get the mowers out a second and third time. Uzbekistan has experience in obtaining multiple harvests, but only individual farms are taking this course. One can no longer condone such an attitude toward the implementation of the food program. As yet, 14 percent of the farms' requirement for feed has been laid in: This means that farms must now work even more intensively so that feed stocks are sufficient for winter.

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CSO: 1824/398

LIVESTOCK FEED PROCUREMENT

ZAPOROZHYE, TERNOPOL OBLASTS BEHIND IN FEED PROCUREMENT

AU101335 Kiev PRAVDA UKRAINY in Russian 4 Jul 86 p 1

[Unattributed Report: "In the Ukrainian SSR Council of Ministers"]

[Text] The Presidium of the Ukrainian SSR Council of Ministers has discussed the question of the work of the soviet and agroindustrial organs of Zaporozhye and Ternopol Oblasts to ensure the supply of high-quality feed for livestock breeding.

The decision adopted by the Presidium notes that the soviet and agroindustrial organs of these oblasts have failed to draw the necessary conclusions from the shortcomings that were allowed to occur in the development of feed production in the past 5-year plan period and have failed to restructure the style and methods of leadership of this production branch in accordance with the demands made by the 27th CPSU Congress and the June (1986) CPSU Central Committee plenum, and that as a result of this the rates of feed gathering and the quality of feed are still low, and many other omissions have also become apparent in this important work.

A considerable number of kolkhozes and sovkhoses, especially in Ternopol Oblast, started to procur feed with delays. The quality of preparation of feed harvesting equipment was low in these farms and they also failed to organize a highly productive utilization of the feed harvesting equipment.

Progressive technologies are still being introduced too slowly into feed crop growing and feed procurement. The necessary work in caring for row crops is not being done in good time. Stocktaking, storage, and efficient utilization is poorly organized. In many kolkhozes and sovkhoses the remuneration of workers engaged in feed production has not been made dependent on the quality of procured feed.

Construction of feed storage installations is progressing only slowly in Zaporozhye Oblast. The assistance of patron industrial enterprises and construction organizations is not used enough in this connection. The interkolkhoz and intersovkhoz mixed feed plants continue to fail to fulfill mixed feed production plans from year to year.

The Ukrainian SSR Council of Ministers has requested Comrade H. I. Moskalov and A.I. Tovstanovskiy, chairmen of the Zaporozhye and Ternopol Oblispolkoms, and Comrades V.G. Veretelnik and L.M. Malanchuk, chairmen of the respective oblast agroindustrial committees, to take additional measures to correct resolutely the situation concerning feed production, procurement, and quality. The need was stressed to raise exactingness toward the leaders of rayispolkoms and rayon agroindustrial associations and the leaders of kolkhozes and sovkhozes regarding their tasks of fully ensuring the supply of high quality feed for all kolkhozes, sovkhozes, industrial farm enterprises and private plots, and their responsibility for the tasks entrusted to them.

/6662

CSO: 1811/35

REGIONAL DEVELOPMENT

VASKhNIL CONFERENCE EXAMINES SCIENTIFIC SUPPORT TO UKSSR APK

Kiev PRAVDA UKRAINY in Russian 26 Apr 86 p 3

[RATAU report: "Agroindustrial Science Should Meet the Demands of the Times"]

[Text] The annual meeting of the Southern Department of VASKhNIL, held in Kiev on 25 April, had a thorough, business-like discussion of ways to step up the integration of agricultural science with production and activate creative endeavor. The results of the work of scientific institutions for 1985 and the 11th Five-Year Plan and challenges in scientific support for development of the agroindustrial complex in light of the decisions of the 27th party congress were discussed. VASKhNIL Academician G. A. Bogdanov, chairman of the presidium of the Southern Department, gave a report.

His report and the statements by the heads of leading scientific research institutes and prominent scientists noted that plant breeders turned about 260 new varieties and hybrids of agricultural crops over to the kolkhozes and sovkhozes of the Ukraine and Moldavia in the last five-year plan, that the zonal farming systems which were developed are being incorporated, and intensive technologies for raising grain, industrial, and other crops are being introduced. New types, lines, and crosses of dairy cattle, hogs, sheep, and poultry have been developed. In all, 675 scientific developments were introduced into agricultural production in the republic, with an economic impact of about 1 million rubles.

While analyzing work done and discussing specific tasks, participants at the meeting called attention to the fact that the activity of the department's scientific collectives still does not fully fit the decisive policy of accelerating the country's socioeconomic development and the tasks of scientific-technical progress. The level and productivity of research are often low, and developments are not always put into practice promptly. Scientific institutions are moving too slowly to restructure their work to conform to the demands being made of agrarian scientists under the new conditions of agroindustrial production.

Science, it was pointed out in the report and statements, still is not fully helping to overcome the lag that has been permitted in the production of agricultural output and has not become a real catalyst of progress in the countryside. The technological centers for grain crops that were set up are not working effectively enough. The techniques of bioengineering and genetic engineering are being developed and introduced too slowly. In this connection it was stressed that we must improve the style and methods of managing and administering science, establish a high level of organization, discipline, and order in the collectives, and increase the accountability of personnel.

Solving the problems of scientific support and development of the agroindustrial complex demands mobilization of the full scientific arsenal and close cooperation by agricultural sciences with the fundamental biological, economic, and sociological areas. On this level it would be useful and important to deepen cooperation between institutes of the Department and the UkSSR Academy of Sciences.

I. A. Mozgovoy, Politburo member and secretary of the Central Committee of the UkSSR Communist Party spoke at the meeting. He observed that agricultural science, which has enormous potential, faces large, and in a number of respects very complex, tasks. To accelerate scientific developments, it is necessary to concentrate forces in those areas that will ensure a sharp rise in production efficiency. Improving the fertility of the land is a paramount task. In a number of places there have been retreats from comprehensive solutions to crop farming problems, violations of the crop rotation, underestimation of the importance of organic fertilizer, wooded windbreaks, pest, disease, and weed control by farming techniques, and failure to appreciate other proven methods -- these things have resulted in serious losses to production. As a result the humus content in the soil at many farms is declining and the area of eroded, acid, and salinized soils is growing. Meanwhile agricultural science does not have a firm position in defense of the scientifically substantiated zonal soil protective systems it has developed. Every means must be used to raise the fertility of each hectare. This would guarantee successful development of highly productive and stable crop farming, which is the main work criterion.

A great deal is to be done for scientific support of fulfillment of the assignments for grain production. The plant breeders have a large part to play here, especially those at the Mironovka Scientific Research Institute of Wheat Plant Breeding and Seed Management and the All-Union Plant Breeding-Genetic Institute. Although numerous what varieties have been developed, not all the regionalized new varieties ensure high quality output and therefore they do not get used much in production. It is the duty of plant breeding scientists to do more solid work on developing varieties of winter wheat that are resistant to freezes and thaws and affliction by rodents, insects, fungi, and bacteria. Farmers need good single-shoot beets with high germination rates and sugar output. The breeding of high-stalk feed crops demands significant improvement. The VASKhNIL Department must set up one or several groups of scientists by zones to solve the problem of feed protein.

His statement criticized the heads of the collectives of the scientific research institutes of vegetable and melon growing, soil science and agrochemistry, potatoe growing, and soil protection against erosion; the practical return from their work is still low.

He next took up the problems of intensifying animal husbandry, emphasizing that solving them requires a substantial restructuring of work and thorough integration of science with production. The average daily weight gain of cattle and hogs must be increased 1.5 times to reach the volumes outlined by the document "Basic Directions." For this the farms need recommendations on technologies for keeping and feeding different-aged groups of animals. The return from animal breeders should be greater. A creative and demanding atmosphere should be established in the sector, one in which more initiative, daring, and reasonable risk would be seen.

The statement pointed out the low prestige of developments by scientists of the Southern Department of VASKhNIL; only a few of their projects are done on the level of the best foreign and domestic achievements. Attention was drawn to the

narrowness of socioeconomic research and the inadequate efficiency of VUZ science, in which are large number of doctors and candidates of sciences are concentrated. The efforts of scientists, above all at the Ukrainian Scientific Research Institute of the Economics and Organization of Agriculture imeni A. G. Shlikhter should be directed to improving economic relations, the contract, and rational organization and payment of labor. Steps should be taken toward efficient use of computer technology and automated systems of management, price formation, and the normative base for planning, as demanded by the decree of the CPSU Central Committee and USSR Council of Ministers entitled "Further Refinement of the Economic Mechanism of Management in the National Agroindustrial Complex."

In conclusion, I. A. Mozgovoy stated that solving the important challenges placed before science depends greatly on the work style of party organizations. Political and indoctrination work should be conducted on a high level in the collectives. We must see that every communist and every scientific associate is a model of the conscientious attitude toward official duty, high principle, demandingness, and the business-like attitude.

The meeting adopted a decree which defined practical steps for comprehensive scientific support of development of the sectors of the agroindustrial complex and acceleration of scientific-technical progress in them.

Among those taking part in the work of the meeting were Yu. A. Kolomiyets, nonvoting member of the Politburo of the Central Committee of the UkSSR Communist Party, Chairman of the UkSSR Council of Ministers, and chairman of UkSSR Gosagroprom; Ye. R. Chulakov, head of the department of agriculture and food industry of the Central Committee of the UkSSR Communist Party; K. M. Sytnik, vice president of the UkSSR Academy of Sciences; VASKhNIL Academician M. F. Lupashku; and executives of party and Soviet organizations, UkSSR Gosagroprom, and a number of republic ministries and departments.

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AGRO-ECONOMICS AND ORGANIZATION

GOSPLAN OFFICIAL EXPLAINS DECREE ON APK ECONOMIC MECHANISM

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[Article by N. Borchenko, Department Chief, USSR Gosplan: "Improving the Economic Mechanism in the Agro-Industrial Complex". Capitalized passages appear in boldface in original.]

[Text] Improving the economic mechanism is an important factor in accelerating production growth rates and improving its effectiveness. The economic mechanism of the agro-industrial complex must correspond to the new organizational structure of management and to solving the large scale tasks of improving the population's supply of food * New approaches in planning, economic incentives, financing, credit, capital construction and the creation of favorable conditions for the transition of enterprises to true cost accounting [khozraschet] * The overall objective of the transformations is to strengthen economic management levers and expand the authority and independence of enterprises and their interest in and responsibility for the end results of their work.

The formation of USSR Gosagroprom -- the central organ of state administration of the agro-industrial complex and of its local elements -- virtually completed the organizing into a single economic system of one of the largest economic complexes in the country. Favorable conditions have been created to provide at all economic levels administration, planning and financing of interrelated branches, organizations, associations and enterprises within the APK [agro-industrial complex].

USSR Gosagroprom, as the administrative system, is called upon to implement in practice acceleration of the rates of development of agro-industrial production and to ensure a fundamental improvement in the supply of the population with food in wide assortment and high quality, by the most efficient and effective method. To achieve this goal it is necessary to unite the interests of all the partners within the agro-industrial complex and ensure close integration of agriculture with the processing industry on a new economic basis. Consequently, the economic mechanism must correspond to the new organizational structure for administering agro-industrial production.

In the Political Report at the 27th CPSU Congress, M. S. Gorbachev particularly stressed the importance of improving the economic mechanism in the agro-industrial complex. "The main intent," he stated, "boils down to giving scope to economic methods of management. It is necessary to expand substantially the independence of kolkhozes and sovkhozes and increase their interest in and responsibility for end results. In essence we are talking about creative use of Lenin's idea of the food tax as it applies to modern conditions." (Footnote 1) (M. S. Gorbachev, "Political Report of the CPSU Central Committee to the 27th CPSU Congress. Moscow, Politizdat, 1986, pp 39-40.)

The CPSU Central Committee and USSR Council of Ministers resolution, "On Further Improving the Economic Management Mechanism in the Country's Agro-Industrial Complex" reflected ALL ASPECTS OF THE ECONOMIC MECHANISM: PLANNING; ECONOMIC INCENTIVES; FINANCING AND CREDIT; INTRODUCTION OF COST ACCOUNTING PRINCIPLES OF WORK; CREATION OF NEW COLLECTIVE FORMS OF PRODUCTION ORGANIZATION; EXPANDING THE AUTHORITY AND INCREASING THE RESPONSIBILITY OF ECONOMIC ENTITIES; AND GRANTING THEIR MANAGERS GREATER INDEPENDENCE IN MAKING DECISIONS ON QUESTIONS OF CAPITAL CONSTRUCTION; AND DEMOCRATIZING PRODUCTION MANAGEMENT.

The need to improve the economic mechanism is caused by the fact that it has a number of important shortcomings: The existing methods and practice of planning and incentives poorly orient kolkhozes, sovkhozes and other enterprises and organizations in the agro-industrial complex toward complete use of their production capability, introduction of the achievements of science and leading practice, ensuring the stable development of agriculture and related branches; reducing product losses at all stages of production, storage and processing; as well as solving the problems of the social restructuring of the village.

Planning the agro-industrial complex is a central element of the economic mechanism. The resolution provides for major transformations in this field:

Planning procurements of agricultural products and their deliveries to all union and republic funds, as well as grain purchases is improving;

a new procedure is being introduced for planning the development of the public economy in close relationship with the private subsidiary sector of kolkhozes and workers sovkhozes;

the integration of agricultural production with the processing industry and cooperative trade is being extended;

the principles for planning the production of mixed feed, their assortment, and the procedure for forming resources of protein feeds are being changed;

the authority of local organs of enterprises and organizations to plan capital construction, and approve title lists and the wage fund for construction using the organization's own resources is being substantially expanded.

Along with this the procedure for creating the wage funds of kolkhozes and sovkhoses and the salaries of managers and specialists, the financing and credit formation of material and technical supply, and several other aspects of the activity of enterprises and organizations in the country's agro-industrial complex system are being fundamentally changed. The new approaches in planning touch all levels of the economy: enterprises of rayon, oblast and kary administration; republic and all-union levels.

The question arises: What is the essence of the measures proposed for improving planning? It is as follows:

The entire planning system is being carried out in accordance with new tasks for accelerating the growth rates of the country's agro-industrial complex;

broad democratization of planning is being provided and greater authority is being granted (and along with this increased responsibility!) to specialists and managers of enterprises and local economic organs in the struggle for high end results of labor;

comprehensiveness, balance and proportionality of development of all elements of agro-industrial production are being strengthened, most of all at the enterprise level and among all the branches included in the agro-industrial complex, on a new basis which takes into account mutual economic interests, strengthening the material base of production and introducing cost accounting;

it is planned in the immediate future to shift at all management levels to the normative method of planning production and procurement of products, their production costs and labor costs, closely linked with the material resources existing in the enterprise and those newly arriving;

at the stage of plan formation volumetric indices are linked with price, credit, taxes, payments to the budget, wages and economic incentive funds;

the number of indices, forms of the plan and annual and operational reporting are being consistently and decisively reduced;

favorable conditions are being created for moral and material incentives for the development of agricultural production in kolkhozes and sovkhoses; private farming of sovkhos workers and of kolkhozes peasants; gardening and truck farming of industrial enterprise workers and subsidiary farming of industrial ministries and departments;

local economic organs of republics, oblasts, krays, rayons and farms are being oriented toward self-supply with food and increasing their responsibility for the delivery of products to the all-union and republic funds.

State orders for food and agricultural raw materials for the production of industrial consumer goods are a decisive factor in the development of agro-industrial production.

The authority of the councils of ministers of the union republics, kray ispolkoms and oblast ispolkoms in establishing the amount of procurement of

agricultural products is being increased. Beginning in 1987, in the plans for the economic and social development of the USSR, for such products as potatoes, vegetables, melons, fruits and berries, grapes, meat, milk and eggs, the union republics will approve only firm plans for the delivery of these products into the all-union fund. Kray and oblast ispolkoms themselves establish the quantities in which these products will be sold to the state, stemming from the tasks of ensuring their delivery to all-union and republic funds and satisfying local needs.

For other types of products -- grain, oil-bearing crops, sugar beets, cotton, flax fiber, wool, etc. -- the existing planning system is being retained; i.e., the amounts of purchases of these products will, as before, be approved by the USSR Council of Ministers. Thus, centralized state planning is being retained for those types of products, the purchases of which go entirely towards satisfying all-union requirements and are subject to central redistribution. At the same time, planning purchases of products used mainly for local consumption and industrial processing is being shifted to the union republics and kray and oblast ispolkom's, which will help increase the responsibility and interest on the part of the councils of ministers of the union republics and local soviet and economic organs in improving the supply of food to the population. In this case, all resources of meat, milk and eggs and other products above the plan level obtained after fulfilling the plan for deliveries to the all-union and republic funds, will remain entirely at the disposition of republics, krays and oblasts and be directed toward improving supplies for the local population. The volumes of purchases and deliveries of products into the all-union and republic funds are established for the five-year plan and broken out by year, and must remain unchanged. Plans for state grants of products from the all-union fund to the republics, and from the republic funds to the krays and oblasts will be under the same conditions. Shortages in the delivery of products to all-union and republic funds will be reimbursed from the funds for local supply in the next quarter or year.

Upon fulfillment of the quarterly plans for deliveries of meat and milk into the all-union and republic funds, the councils of ministers of the union republics and the kray and oblast ispolkoms are authorized to use their resources above the plan level for inter-republic and inter-oblast barter operations and other purposes.

Under the new conditions the quantities of state purchases of agricultural products and their deliveries into the all-union fund by republics, oblasts, rayons, kolkhozes and sovkhoses must be linked with the quality of the soil and the degree to which the farms are provided with fixed production capital and labor resources. Unfortunately, plans for purchases are often issued to kolkhozes and sovkhoses without taking into account the economic and natural and climatic particularities of production, according to the average percentile increase in purchases for the rayon. This approach is unacceptable under the new conditions, in which kolkhozes and sovkhoses will receive firm plans for the years of the five-year plan for purchases of products, and all products obtained above the plan level as well as some within the plan level can be sold through state and cooperative trade or on the kolkhoz market. THE OBJECTIVE STUDY OF THE REAL CAPABILITIES OF THE COLLECTIVE AND THE LINKING OF PRODUCTION OF PRODUCTS TO MATERIAL-TECHNICAL AND OTHER RESOURCES MUST BE BASED

ON THE NORMATIVE PLANNING METHOD. Development of a system of balances and wide application of progressive norms and consumption norms for machinery and equipment, mineral fertilizers and petroleum products, and the calculation and use of indices of proportionate capital investments, wages, fodder, as well as of profitability and other norms will make it possible to improve the balance of plan calculations; reduce the time required for their development; ensure control over the efficient use of resources and create approximately equal economic conditions for the sovkhozes and kolkhozes. Beginning in 1987 there will be a shift to planning purchases of agricultural products with the wide use of norms. In so doing it would be useful to reduce the number of plan indices, annual reports by farms and operational reports by 30-40 percent.

Important changes have been introduced into the practice of planning grain purchases. In recent years these plans were not fulfilled and were adjusted before each new harvest, which reduced their mobilizing role. Therefore, A STABLE PLAN FOR DELIVERY OF GRAIN AT THE 1986 LEVEL IS ESTABLISHED FOR ALL THE YEARS OF THE 12TH FIVE-YEAR PLAN. A SEVERE SYSTEM OF SANCTIONS WILL BE INTRODUCED FOR NON-FULFILLMENT OF PLAN GRAIN PURCHASES. FOR EXAMPLE, THE DELIVERY OF FORAGE GRAIN FOR MIXED FEEDS FROM STATE RESERVES WILL BE REDUCED. REPUBLICS, KRAYS, OBLASTS, RAYONS AND FARMS WILL OBTAIN DELIVERIES OF SEED GRAINS FROM STATE RESOURCES ABOVE ANNUAL LIMITS, AS A RULE, IN EXCHANGE FOR GRAIN OR AS A LOAN WITH MANDATORY REPAYMENT FROM THE NEXT YEAR'S HARVEST.

This procedure will increase responsibility and create an economic interest on the part of kolkhozes and sovkhozes in the prospects for the development of grain farming since the entire increase in its production will be directed towards satisfying the internal needs of the farms for grain, and, first of all, for increasing the production of animal husbandry products. It is planned to reduce substantially the list of grain crops for which state grain purchases will be planned.

Taking into account the particular importance of guaranteed delivery to state resources of the planned amounts of grain, beginning in 1986 additional payments to the farms of supplements to purchase prices are being introduced for the sale of grain over the level of 11th Five-Year Plan, provided plans are fulfilled. For kolkhozes and sovkhozes which do not fulfill the plan, but which exceed the level of the 11th Five-Year Plan, the existing procedure is now being retained. They will be paid a price supplement of 50 percent, and those which fulfill the plan fully or overfulfill it will receive a 100 percent increase. Moreover, such farms will be able to purchase automobiles, trucks, tractors, agricultural machinery and other resources which are in high demand above those allocated to them.

The existing procedure for distribution of feed concentrates is changed. It is planned to decentralize planning the activity of the mixed feed industry. THE COUNCILS OF MINISTERS OF THE UNION REPUBLICS MUST FORM PLANS FOR THE PRODUCTION OF MIXED FEEDS BY QUANTITY AND ASSORTMENT, TAKING INTO ACCOUNT THE PROPOSALS OF LOCAL ECONOMIC ORGANS, ON THE BASIS OF THE MAXIMUM INVOLVEMENT OF THEIR OWN RESOURCES -- FEED GRAIN AND PROTEIN FEEDS -- TO MEET THE REQUIREMENTS OF ANIMAL HUSBANDRY. At present virtually all production of

mixed feeds is based on state raw materials resources, which creates dependency frames of mind and takes responsibility away from local economic organs for improving the quality and structure of the mixed feeds being produced.

The new procedure is called upon to increase the interest of local organs in increasing the production of a wide assortment of grain and plant protein and to facilitate the more complete and effective use of processing industry waste as feed resources. To reduce losses of highly perishable fruit and vegetable products and more fully reimburse costs of their production, BEGINNING IN 1986 KOLKHOZES AND SOVKHOZES ARE AUTHORIZED TO SELL THROUGH COOPERATION ACCORDING TO PRICES ESTABLISHED CONTRACTUALLY, AND AT KOLKHOZ MARKETS, 30 PERCENT OF THE POTATOES, VEGETABLES, FRUITS, BERRIES AND GRAPES AND COUNT THEM AS PART OF THE FULFILLMENT OF THE STATE PURCHASE PLAN, AND CAN ALSO SELL ALL AGRICULTURAL PRODUCTS ABOVE THE LEVEL OF THE PLAN.

The resolution envisions improving ties between the private subsidiary farming by sovkhov workers and kolkhoz peasants and the public farming of enterprises, based on shared economic interest in the development of agricultural production, in particular animal husbandry, on a strictly contractual basis. All products sold directly to cooperatives or processing industry enterprises are counted toward plan fulfillment by the enterprises, and for them a 50 percent supplement is paid to the price for exceeding the level achieved in the 11th Five-Year Plan. THE INTEGRATION OF PRIVATE AND SOCIAL FARMING ON A NEW, PLANNED BASIS WILL FACILITATE AN INCREASE IN THE PRODUCTION OF AGRICULTURAL PRODUCTS AND IMPROVE THE EFFECTIVENESS OF THE USE OF LAND AND LABOR RESOURCES.

The authority of kolkhozes, sovkhoves and local organs in the field of drawing up and planning capital construction is being substantially expanded. BEGINNING WITH THE 1987 CAPITAL CONSTRUCTION PLANS, THE PLACING IN OPERATION OF PRODUCTION CAPACITIES, FACILITIES AND FIXED CAPITAL IS BEING WORKED OUT BY THE KOLKHOZES AND SOVKHOZES THEMSELVES, WITHIN THE BOUNDARIES OF THE CONTROL FIGURES PROVIDED TO THEM ON LIMITS TO CAPITAL INVESTMENTS AND CONSTRUCTION AND ASSEMBLY PROJECTS. They are authorized to spend their own funds and material resources to build production and non-production facilities, as well as to spend for multi-year planting; to acquire vehicles, equipment and agricultural equipment above the limits of state capital investments set for them in annual plans; to work out planning estimates for technical retooling and redesign of production capacities with an estimated cost for these projects of up to 500,000 rubles, and for food and processing enterprises up to 2.5 million rubles and carry out local tie-in of standard plans for residential housing and other social welfare facilities with an estimated cost of up to 200,000 rubles, as well as to make engineering and geological surveys in concert with these projects. Kolkhozes and sovkhoves previously lacked this authority.

Title lists for planning and surveying work and newly initiated construction with an estimated cost up to one million rubles will be approved by the managers of kolkhozes, sovkhoves, enterprises and APK (at present they may approve title lists with a value up to 500,000 rubles). The estimated value of facilities which are approved by rayon agro-industrial associations and oblast, kray and republic committees has been substantially increased. The

amount of documentation necessary to initiate financing of construction, submitted by institutions of USSR Gosbank, has been substantially reduced. To encourage individual construction in the villages, managers of sovkhozes and other state agricultural enterprises have been granted the authority, in coordination with trade union organizations, to pay for materials from the money in economic incentive funds which are acquired by workers of these enterprises to build individual residences through their own efforts, in an amount up to 50 percent of their cost.

New authority has been granted to kolkhozes, sovkhozes, rayon agro-industrial associations and oblast and republic agro-industrial committees in the field of planning. THEY WILL STIMULATE, WITHIN THE FRAMEWORK OF CENTRALIZED PLANNING, THE DEVELOPMENT OF INITIATIVE, RESOURCEFULNESS AND A CREATIVE APPROACH TO SOLVING THE URGENT PROBLEMS OF AGRO-INDUSTRIAL PRODUCTION; THEY WILL FACILITATE INCREASING THE RESPONSIBILITY OF ENTERPRISE COLLECTIVES, SPECIALISTS AND MANAGERS FOR FULFILLING PLAN TARGETS AND FOR BETTER USE OF PRODUCTION CAPACITY AND LABOR AND MATERIAL RESOURCES, REDUCTION IN PRODUCT LOSSES AND ZEALOUS CONDUCT OF FARMING ACTIVITIES. With the granting of greater independence to local planning organs and enterprises, the role of economic levers is increasing.

The resolution outlines a number of major steps aimed at raising the interest of the collectives of agricultural enterprises in increasing the growth rates of production and procurement of products. Thus, reciprocal sale to kolkhozes and sovkhozes of groats, beet pulp and molasses, for sunflower seeds, soy and sugar beets turned over to the state, is being substantially expanded. In recent years the interest of kolkhozes and sovkhozes in producing sunflower seeds and sugar beet roots declined, which, along with other reasons, led to a reduction in their purchases. To stimulate increased production of these products it is planned to sell to the kolkhozes and sovkhozes, for each centner of sunflower seeds provided to the state, ten kilograms of groats (oil-cakes) and 20 kilograms of mixed feed. At present, for selling sunflower seeds to the state only mixed feeds are provided. Allocation of beet pulp and molasses for exceeding the 11th Five-Year Plan level is being increased.

To increase the interest of kolkhozes and sovkhozes in increasing production, payments of supplements in an amount of 50 percent of the purchase prices for sales to the state of products above the average level achieved in the 11th Five-Year Plan are retained. These products include sunflowers, sugar beets, raw cotton, soy, flax and hemp products (straw, treated plant fibers, thread), potatoes, tea leaves, tobacco, hops, mustard, essential oils, poppy (including seeds), cattle and poultry, milk, wool and velvet antlers. Added additionally to the list of crops for which this supplement is paid are table grapes, citrus fruits, onions, horseradish, alfalfa seeds, clover and cereals. Moreover, an extension of payment of supplements to purchase prices has been authorized for agricultural products sold to the state by low-profit and subsidized kolkhozes and sovkhozes which are in the worst natural climatic conditions, within the limits of the monies previously established for republics. Local organs of production management, jointly with the collectives of these enterprises, are obligated to take steps to overcome lags

in the development of these farms, increase profitability and create economic conditions for their gradual shift to cost accounting, based on the principles of self-repayment.

THE COUNCILS OF MINISTERS OF THE UNION REPUBLICS HAVE BEEN GRANTED THE AUTHORITY, IN COORDINATION WITH THE USSR STATE COMMITTEE ON PRICES, TO CHANGE WHEN NECESSARY PURCHASE PRICES FOR INDIVIDUAL TYPES OF AGRICULTURAL PRODUCTS, WITHIN THE LIMITS OF THE OVERALL AMOUNTS OF PAYMENTS.

To stimulate the production of food goods of high quality and broad assortment (juices, confitures, jams, preserves and fruit drinks) and reduce the loss of highly perishable products, local organs of the USSR Gosagroprom system are authorized to establish retail prices for these products for their sale to the population through their trade enterprises, which help reduce the prices on the kolkhoz market.

Many of the country's kolkhozes and sovkhozes are working under difficult weather conditions. Therefore, to create more stable financial conditions for the activity of kolkhozes and sovkhozes which have suffered from disasters or other unfavorable weather conditions, the level of insurance remuneration for insuring agricultural crops has been increased beginning in 1986 from 50 to 60 percent of the value of the harvest shortfall.

The practice of the work of kolkhozes and sovkhozes in recent years and the economic experiments carried out in various zones of the country on collective contracts, the shop management system and the introduction of elements of cost accounting have demonstrated the high effectiveness of the new forms of labor organization and payment. In developing this thrust, the resolution envisions the widespread introduction of all forms and methods of providing economic incentives to the initiative of labor collectives. With the shift of the wages of specialists and farm managers to collective cost accounting conditions their material interest will merge with those of the brigade and teams, since the wages of both will depend directly on the growth rates of production.

MANAGERS OF KOLKHOZES AND SOVKHOZES ARE AUTHORIZED TO APPLY EXTENSIVELY ON A CONTRACTUAL BASIS FAMILY AND INDIVIDUAL CONTRACTS IN PLANT GROWING AND ANIMAL HUSBANDRY. IT IS IMPORTANT TO NOTE THAT UP TO 25 PERCENT OF THE PRODUCTS OBTAINED ABOVE THE VOLUME DETERMINED UNDER THE CONTRACT MAY BE ISSUED TO THE WORKERS IN THE FORM OF PHYSICAL PAYMENTS OR, AT THEIR DESIRE, THEIR VALUE MAY BE PAID ACCORDING TO PURCHASE PRICES.

This organization and wage payment has not yet become widespread, although in them are great reserves: growth in production of agricultural products; improvement in their quality; savings of material costs; involvement in the labor process of the family members of kolkhoz peasants and sovkhoz workers, pensioners or persons working in industrial enterprises; as well as involving school children and rural youth in farm labor.

A reference point has been given for the cost accounting principles of the work of enterprises. BEGINNING IN 1987 A NEW PROCEDURE IS BEING ESTABLISHED FOR THE FORMATION OF THE WAGE FUND FOR WORKERS IN SOVKHOZES AND OTHER AGRICULTURAL ENTERPRISES, ON THE BASIS OF A NORM WHICH IS STABLE FOR THE FIVE-

YEAR PLAN OF 100 RUBLES OF SOLD (GROSS) PRODUCTS. Overexpenditures of wages will be reimbursed from the material incentive fund and in the event that money is lacking by reducing the amount of bonuses provided to the enterprise collectives, and savings in equal shares will be directed into the material incentive and reserve funds. The stringent system for the formation of the wage fund and payment from it will facilitate its economical and effective consumption.

Additional incentives will be introduced for growth in labor productivity which exceeds growth in wages. BEGINNING IN 1987 PAYMENT FOR THE LABOR OF SPECIALISTS AND FARM MANAGERS WILL BE MADE DIRECTLY DEPENDENT ON THE END RESULTS OF THE WORK. It will take place according to stable prices per unit of produced or sold product. During the year an advance will be paid in the amount of 80 percent of the established position pay.

At the same time a new system will be introduced to increase the interest of managers, specialists and sovkhoz workers in saving material and labor resources and increasing production efficiency. In 1986 incentives for saving production costs are being introduced. Members of brigades and teams will receive bonuses in an amount of 70 percent of the savings of direct costs, and overexpenditures of the latter shall be covered from wage funds and bonuses. Bonuses will be paid for increasing production profitability, and in subsidized sovkhozes for reducing the subsidiary as compared with the plan. A mandatory condition for the payment of bonuses will be fulfillment of the plan for grain and meat, and in specialized farms, in addition, for the basic product of the branch.

The managers and specialists of rayon and oblast agro-industrial associations and committees are being shifted to new conditions for wages and bonuses -- according to stable prices per unit of product. Prior to the end-of-year calculations of production they will be paid an advance in the amount of 90 percent of their monthly position pay.

THE SYSTEM ADOPTED FOR FORMATION OF THE WAGE FUND OF ENTERPRISES IN CLOSE RELATIONSHIP TO PRODUCTION GROWTH, AND FOR STRENGTHENING THE DEPENDENCE OF MATERIAL INCENTIVES PROVIDED TO KOLKHOZ PEASANTS, SOVKHOZ WORKERS, MANAGERS AND SPECIALISTS IN ENTERPRISES, RAYON AGRO-INDUSTRIAL ASSOCIATIONS AND OBLAST AGRO-INDUSTRIAL COMMITTEES ON END RESULTS MUST CREATE FAVORABLE CONDITIONS FOR INCREASING THE ROLE OF THE HUMAN FACTOR IN LABOR INTENSIFICATION, SAVING RESOURCES AND INCREASING FOOD PRODUCTION.

The further improvement of financing and credit and the formation of funds for the development of production and economic incentives are of great importance in the economic mechanism. It is necessary to simplify the existing system for financing kolkhozes and sovkhozes and gradually shift to a more simple and effective form of financing farms according to consolidated expense items. Financing enterprise costs will take place not from the republic budget, as at present, but from the budgets of oblasts, krays and autonomous republics.

Beginning in 1987, stable norms for the five-year plan for payments into the budget from profits will be established for sovkhozes and other state agricultural enterprises, and an income tax will be established for kolkhozes.

Differentiated norms and amounts of income tax from the kolkhozes shall be established, taking into account the economic assessment of the land and the level to which they are provided funds and labor resources.

Sovkhozes and other agricultural enterprises are granted broad authority in the use of the financial resources which remain after payment to the budget and credit payments. They themselves will form economic incentive funds, material incentive and social and cultural measures funds, production development funds and the reserve fund. The material incentive fund cannot exceed 17 percent of the overall wage fund, and the social and cultural measures fund cannot exceed 50 percent of the material incentive fund.

THE NEW FINANCING SYSTEM BEING INTRODUCED IN 1987 SUBSTANTIALLY SIMPLIFIES FINANCIAL OPERATIONS, REDUCES THE NUMBER OF DOCUMENT TRANSACTIONS AND CREATES CONDITIONS NECESSARY TO ELIMINATE EFFECTIVELY ECONOMIC DIFFICULTIES IN CARRYING OUT FARMING ACTIVITIES. IT IS FLEXIBLE AND EFFICIENT AND GRANTS ROOM FOR MANEUVER BY FINANCIAL MEANS IN THE AGRO-INDUSTRIAL COMPLEX ENTERPRISES.

Questions of financing the economic activity of enterprises are closely intertwined with the procedure and conditions for granting them credit. The resolution envisions a number of measures for providing more favorable credit for the development of kolkhozes and sovkhozes, a system of long-term and short-term credit, and for increasing the time period and the start time for their repayment. These credits will now be issued taking into account the overall solvency of enterprises and organizations. Greater advantages are being granted to enterprises in the USSR Gosagroprom system for providing credit for construction, expansion of reconstruction and technical retooling above the limits of capital investments. Under the new conditions the kolkhozes and sovkhozes can use them for up to six years and pay three percent annual interest.

Union republic Gosagroproms have obtained authority to redistribute during the year the limits on long-term and short-term credit, and USSR Gosbank has been authorized to provide credit for placing facilities into operation ahead of schedule, and to allocate an additional limit on long-term credit in an amount equal to 50 percent of the sum paid back ahead of schedule by the enterprises. Other measures are also planned to improve the whole system of financing and credit for kolkhozes and sovkhozes, which are creating a favorable condition for the development of initiative and resourcefulness on the part of managers and specialists in kolkhozes and sovkhozes and enterprise collectives.

IMPROVING THE ECONOMIC POSITION OF KOLKHOZES AND SOVKHOZES, BASED ON SETTING BETTER JUSTIFIED PURCHASE PRICES FOR AGRICULTURAL PRODUCTS AND SUPPLEMENTS TO THESE PRICES; CREATING A NEW SYSTEM FOR MANAGEMENT OF THE AGRO-INDUSTRIAL COMPLEX; GRANTING GREATER AUTHORITY TO FARM MANAGERS AND SPECIALISTS; STRENGTHENING THE MATERIAL-TECHNICAL BASE OF THE VILLAGE AND OTHER MEASURES OF AN ECONOMIC, POLITICAL AND SOCIAL NATURE ARE CREATING A GOOD BASIS FOR THE DEVELOPMENT OF AGRICULTURE AND THE WHOLE AGRO-INDUSTRIAL COMPLEX.

The economic mechanisms shall be improved continuously. It is necessary to seek ever newer forms and methods of management; production administration; planning; economic incentives; financing; credit; establishment of the legal basis for regulating inter-economic contracts and other relations among enterprises in the agro-industrial complex system.

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AGRO-ECONOMICS AND ORGANIZATION

RSFSR RAPO OFFICIALS EXAMINE APK MANAGEMENT PROBLEMS

Moscow EKONOMICHESKAYA GAZETA in Russian No 28, Jul 86 pp 10-11

[Article by F. Bogomolov and N. Dudorov under rubric "Administration of the Agrocomplex": "Both Rights and Responsibility"]

[Text] The rector's office of the All-Russian Higher School of the Administration of the APK, jointly with the editorial offices of EKONOMICHESKAYA GAZETA and EKONOMIKA SELSKOGO KHOZYAYSTVA magazine, organized a meeting with the chairmen and deputy chairmen of the rayon agroindustrial associations of the RSFSR who have been taking refresher courses there. Those present at the meeting discussed questions of improving the administration at the rayon agroindustrial associations. The following article is based on notes taken at that meeting.

Three years ago many administrators and specialists at the rayon agroindustrial associations, as a rule, spoke most often about the difficulties that had been created at that time in administering the activities of all the partners in the RAPO [rayon agroindustrial associations]. There is no need to doubt that such difficulties existed, because the enterprises providing services to agriculture, even though they were part of the RAPO, were subordinate to their own departments along all the channels of economic-organizational activity.

In addition, the difficulties that existed in administration served certain people as justifying, "objective" factors, as has been mentioned at this meeting. If, for example, the farms in a particular rayon had failed to achieve the planned increase in the harvest yield of the fields and the productivity of the animal-husbandry farms, they could give as the reason the omissions that had occurred in the work of the former organizations of Selkhoztekhnika, Selkhozkhimiya, and other partners.

Now, after the creation of the USSR Gosagroprom [State Agroindustry] system, not only the makeup of the RAPO, but also the interrelationships among the partners, have fundamentally changed. A number of enterprises and organizations serving the farms have become structural subdivisions of a rayon agroindustrial association. And their managers have been given the

responsibility for the final results of production in vegetable and animal husbandry, and the forms of material remuneration have also been subordinated to that.

Beginning with the present year, the labor performed by RAPO workers is paid on the basis of the final results. When they are being determined, consideration is to be taken not only of the volume of sale of agricultural output, but also the processing output produced by the subdivisions subordinate to the association. Prior to the final settlements, the RAPO workers receive an advance payment in the amount of 90 percent of the salary rate. Consequently, the RAPO managers and specialists have been placed in those conditions under which they must search for effective methods of exerting an active effect upon the results of the production on the kolkhozes and sovkhoses, and at all the enterprises and organizations in the RAPO.

How to Influence Production?

"It is necessary to make complete use of the economic levers that we have at our disposal," Deputy Chairman of the Yelanskiy Rayon Agroindustrial Association, Volgograd Oblast, A. Zenkin emphasized in his statement. "These are, first of all, the normative methods of planning. It is upon us, the RAPO managers and specialists, that the development of the economically substantiated normatives will depend, normatives that will assure equal working conditions for all farms."

The participants in the meeting emphasized that the influence exerted by the RAPO upon the results of production sometimes can be summarized only as improving the volumetric indicators. But the proper attention is not paid to quality, production costs, or profitability. It is no accident that the expenditures for production (in terms of 100 rubles of gross output) increased considerably during the past five-year plan.

How does one stop that growth and assure the lowering of the production costs? The conditions that apply to the economic mechanism of management in the APK [agroindustrial complex] stipulate paying the labor collectives for having economized direct expenditures, in the amount of up to 80 percent of the total saving, and to compensate for any overexpenditure by drawing on the funds intended for paying the labor and paying bonuses to the collectives.

In this regard it is very important, Chairman of the Kamenskiy Rayon Agroindustrial Association, Voronezh Oblast, P. Matyashov, and Deputy Chairman of the Council of the Privolzhskiy Rayon Agroindustrial Association, Astrakhan Oblast, V. Zolin, said, to make the correct determination of the volumes of production and the expenditure limits for each subdivision operating under principles of cost accountability, and to employ substantiated normatives; otherwise there may be large overpayments of funds or instances of undeserved punishment of the labor collectives.

Economy and thrift are inconceivable without the organizing of the appropriate record-keeping. However, in this matter, as was mentioned by the participants in the meeting, there are still many shortcomings. Participants mentioned examples when the production costs failed to reflect completely all the

expenditures linked with the production of the output. Not infrequently it happens that, for example, the expenses for technical services and for the repair of equipment at one of the subdivisions within a farm are included in the production costs of the output of all the brigades, animal farms, and links equally. Under these conditions it is difficult to guarantee the just distribution of remuneration for economizing on expenditures. Moreover, the responsibility borne by the subdivision managers is reduced, because in this instance they can sign any documents concerning the operations fulfilled by the repair collectives without being concerned about what the cost of those services will be to them.

Chairman of the Kamenskiy Rayon Agroindustrial Association, Voronezh Oblast, P. Matyashov, additionally stated, "Sometimes, in the practical situation, it happens that the allocated material means are simply not sufficient for carrying out the most important operations, as a result of the weather conditions that have developed. Last year, for example, because of the shortage of fuel, even though we expended it economically we were unsuccessful in fulfilling the stipulated volume of operations to turn over the autumn plowed area for spring sowing. That had a detrimental effect upon the harvest yield of the agricultural crops. We could have paid twice as much for the additional fuel in order to assure that it was allocated to the rayon, and then the job would not have suffered."

That is, the recommendation can be summarized by stating that in emergency situations it is possible to allocate additional funds at increased prices.

Have All The Interrelationships in the Mechanism Been Smoothly Organized?

In the opinion of the participants in the meeting, one of the most important problems in the work of the RAPO is the establishment of smooth operations in the mechanism of the contractual relations among the farms and the organizations and enterprises that serve them. The participants cited the following information. Kolkhozes and sovkhoses conclude with various enterprises and organizations that serve them approximately 20 contracts. In those contracts, as a rule, the contracting party that fulfills the operations stipulated in the contract attempts, by using truths and untruths, to reduce its own responsibility for the final results of the work and to receive, undeservedly, a larger economic benefit.

That is why monitoring of the contractual conditions of reciprocal responsibility, as well as monitoring of the cost of services, takes on exceptionally great importance in the activity of the rayon agroindustrial association. But at the same time the farm managers also must take a more serious attitude toward concluding contracts with the enterprises and organizations that serve them. And yet it sometimes happens that a kolkhoz chairman or a sovkhos director will put his signature on a contract without making any great effort to penetrate deeply into its significance, that is, to enter into the contract, so to speak, on empowering principles. And it is not until after certain terms have not been met that he begins to manifest a large amount of energy in the search for justice.

"There is a critical need for improvement in the contractual relations that the kolkhozes and sovkhozes have with the procurement enterprises," D. Zolin, First Deputy Chairman of the Council of the Privolzhskiy Rayon Agroindustrial Association, Astrakhan Oblast, said. This is a matter of assuring that the output that has been grown is taken care of efficiently in the subsequent links of the entire technological chain -- from transportation, storage, and processing to sale to the customers.

Everyone knows that material-technical means and people's labor are expended in the production of output. But what situation develops when that output is sold? The farms in our rayon send their vegetable produce to various parts of the country both by rail and by water transport. But the problem is, after the produce has been accepted for shipment, no one in transportation is responsible for its quality upon delivery to the consumers.

For example, vegetables are being unloaded at South Port in the city of Moscow. The representative of the river fleet makes sure only that the number of containers (if that method of delivery is being used) remains unchanged. Consequently, the recipient can, at his own discretion, and definitely in his own interests, determine the quality of the produce that has been delivered. Need one mention what this leads to in the final analysis?

The vegetable shippers -- the kolkhozes and sovkhozes -- can send their representatives, who, at the places where their produce is being unloaded, could "stand behind their people," or, to put it more accurately, could vouch for the quality of their produce. But whom do they send? -- the chief specialists, the agronomists and economists. They ought to be engaging in the organizing of production, and yet they have to travel hundreds of kilometers to perform a job that is completely unrelated to their specialty.

It is necessary to digress slightly here. The Astrakhan vegetable growers were really not so powerless in allowing themselves to be swept along the current of the disorders in the sale of produce which had been repeating from year to year. There had been attempts to resolve the problem. For example, the managers of the trade organizations of Bashkiria recommended to the farms in Privolzhskiy Rayon, Astrakhan Oblast, that they be allowed to purchase vegetables directly from them, locally. Moreover the representatives of the autonomous republic could go out onto the fields and assure themselves of the quality of the produce being bought. But -- and this is especially important -- they accepted it at the kolkhoz and sovkhoz shipping docks. The results proved to be excellent -- 96-98 percent of the vegetables arrived at the point of destination in condition conforming to standards, and the losses were kept to a minimum. And therefore the intactness of the harvest must become one of the basic commandments of the rural workers and all the partners in the agroindustrial complex.

The Bashkiria Ministry of Trade proposed to the Privolzhskiy Rayon Agroindustrial Association that it continue this method of procuring and delivering vegetable produce. But other consignees were specified for the rayon, and people forgot about this method. Of course, much here depends upon the initiative of the rayon agroindustrial association and the Astrakhan Oblast agroindustrial complex. If a particular innovation has proven its

value, why reject it? True, it is also necessary for the consumers to take a self-interested attitude to this. Unfortunately, the trade organizations in Moscow and in Leningrad Oblast, for example, are for some reason in no hurry to change over to the method of vegetable procurement which has proven its value.

By the Status of the Manager

At the conference at the CPSU Central Committee which discussed the tasks of the further improvement of the economic mechanism of management in our country's agroindustrial complex, it was emphasized that no economic measures will produce the proper effect if the agricultural enterprises do not have a steady complement of competent specialists and managers.

But competency, the participants at the meeting said, also presupposes a definite framework for economic independence for demonstrating one's entrepreneurial skills.

The competency of personnel at any level does not come all by itself, Chairman of the Rybtsovskiy Rayon Agroindustrial Association, Altay Kray, V. Shmelev, said. Much here depends upon the ability of the manager and the specialist himself to select from the practical situation all that is the best and progressive, to compare the experience with the specific conditions and opportunities, and to work persistently to introduce that experience into practice. Without a doubt, various forms of improving the person's professional skills are a large support. It is fitting here, he noted, to express the desire that, at the All-Russian Higher School for the Administration of the Agroindustrial Complex, the instruction will be carried out at a higher level. Individual lectures, although the persons giving them have learned degrees, provided us with insufficient knowledge with regard to the administration of production. We can get general surveys from the periodical press, but what we need to know is the heart of the matter, especially with regard to the economic mechanism of management.

For purposes of raising the level of proficiency of the personnel for all subdivisions and enterprises of the rayon agroindustrial associations, Gosagroprom recommends a five-month curriculum: one month, theoretical classes; then three months of probationary work on farms; and finally another month for theoretical summations and conclusions.

There is no need now to argue about who successfully the curriculum has been prepared. Life will probably make its own corrections. But it is necessary to speak a bit about the organizing of the probationary work. Evidently, the RAPO councils should take a serious approach to selecting the farms whose work practice will be beneficial in all regards -- in the organization of production, the use of cost accountability, the use of the collective contract, and the creation of cultural and everyday-living conditions for the workers. And it is necessary for the kolkhoz chairmen and the sovkhoz directors themselves who are being sent to the probationary work to possess the required qualities as a modern manager and the ability to accept that

which is new. Otherwise the probationary period for the cadres, in the opinion of the participants at the meeting, may turn into an additional vacation for them.

The meeting with the workers of the rayon agroindustrial associations showed that in organizational matters the RAPO still have a number of unresolved questions. In our opinion the agroindustry of the RSFSR and the oblast agroindustrial complexes should penetrate more deeply into the work of the RAPO and find out how they have been using their rights and fulfilling their duties of managing all the subdivisions, in order, by this means, to locate any bottlenecks and to eliminate them promptly.

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AGRO-ECONOMICS AND ORGANIZATION

UKSSR SUPREME SOVIET PRESIDIUM OFFICIAL ON PRIVATE PLOT ROLE

Moscow SELSKAYA ZHIZN in Russian 3 Jul 86 p 2

[Article by N. Khomenko, secretary of the Presidium of the UkSSR Supreme Soviet: "By Combining Social and Personal Interests: Soviets, Their Affairs and Concerns"]

[Text] It is generally known that kolkhozes, sovkhoses, and other agricultural enterprises -- that is, social production -- plays a leading role in resolving the tasks of the Food Program and providing Soviet citizens with food products. At the same time, concern is shown for the subsidiary farms of the rural population, that food-supply shop which is a continuation of the social sector and is closely linked with it.

In the Ukraine alone, as many as 9 million families have their own private plots, the total area of which exceeds 2.5 million hectares. The population maintains more than 9 million head of various kinds of livestock and a large number of rabbits and poultry. By means of their private plots, the rural inhabitants satisfy their own needs for milk and meat, products from poultry raising, potatoes, vegetables, and fruits. The subsidiary management as a whole provides almost one-third the kolkhoz member's total income.

In addition, private plots in rural localities participate in supplementing the government's food-supply resources, and the surplus food products produced on those plots are sold at the kolkhoz markets. In the government purchases there is a considerable percentage of vegetables and berries, potatoes, and berries that have been purchased from the public.

Questions of developing the citizens' private plots, of creating favorable conditions for selling the excess produce that has been grown and the products from small-sized animal farms are constantly in the field of vision of the Presidium of the Supreme Soviet and the local agencies of authority in the republic. A competition has been organized among the villages and settlements for the best management of the private plots. Measures for providing psychological and material incentives for the persons who are most energetic in turning over their surplus products have been developed.

A special role in increasing this work belongs to such an important form of the workers' direct participation in the resolution of nationwide tasks as

training assemblies for the public. In the republic's villages and settlements they are held regularly, at least twice a year. At those training assemblies many problems are discussed, including the questions of developing the private plots. For example, at an assembly that was held early this year, the inhabitants of approximately 17,000 villages made increased pledges for the production and sale to the government of products from their private plots. And the results of their fulfillment are also summed up at the training assemblies.

Practical life shows us that success in this important matter depends to a considerable degree upon an active position taken by the Soviet, upon the deputy's personal example. Where the people's electors and the Soviet and economic activists maintain livestock and poultry on their private plots and sell their surpluses to the government, that work, as a whole, is organized well. This, for example, is the way that deputies to the Lipnitskiy Rural Soviet, Lvov Oblast, O. A. Ledviy and S. M. Vovk act. Each of them last year sold from 4000 to 5000 kilograms of milk. And the other rural inhabitants are following their example.

It must be noted that the explanatory and organizing work being carried out by the Soviets and the deputies among the public would not have proved to be so effective without the solid economic and material base that was placed under the private-plot system. At the present time, it can be said, we have achieved the main goal -- the necessary interaction between the private plot and social production. The private plots can function successfully only if the kolkhozes and sovkhoses help them to cultivate the plots of land, and help to provide them with fertilizers, young animals and poultry, and feeds and fodders.

In the republic during the 11th Five-Year Plan the average annual sale of young cattle to the public increased by 142,000 head; young hogs, by 144,000 head; and poultry, by 23 million head. Using the powers granted to them, the local Soviets are striving for a situation in which the kolkhozes and sovkhoses fulfill their pledges for providing feeds and fodders for the livestock and poultry maintained on the citizens private plots. Last year the public was allocated 1.5 million tons of hay and straw; 663,000 tons of succulent fodders; almost 440,000 hectares of pastures; and 178,500 hectares of hay meadows. In exchange for output that was turned over, approximately 800,000 tons of concentrated fodders were released. In addition one must add on the rather large quantity of grain and root crops which were issued by way of payment in kind.

We can also see a large reserve for increase the production of food products in the intensification of the supervision on the part of the Soviets over the efficient use of the private plots. The USSR Constitution requires the citizens to make efficient use of the sectors of land which are offered to them. The kind of return that that land produces is by no means a personal matter.

Last year and this year, on instructions from the Presidium of the UkSSR Supreme Soviet, the republic is carrying out a large amount of work to study the use in rural localities of homes and private plots whose owners reside

there only seasonally. It has been ascertained that on such plots a considerable amount of land is used partially or unproductively. The executive committees of the Soviets, jointly with the governing boards of the kolkhozes and the sovkhos managements, carefully analyzed how to put into active circulation every hundredth of a hectare of that land.

In order to activate the reserves as rapidly as possible, in Voroshilovgrad Oblast, for example, 233 executive committees have created commissions and posts for monitoring the efficient use of land both in social production and in the individual sector. Their activists number more than 2750 persons. In Ternopol Oblast, with the purpose of monitoring the strict observance of agricultural legislation, land commissions have been created under the rural Soviets. Twice a year they check the entries in the farm books against the actual use of the private plots.

Recently the Presidium of the UkSSR Supreme Soviet approved a message from a group of deputies from Shpolyanskiy Rayon, Cherkassy Oblast, concerning the conducting during the 12th Five-Year Plan of a deputy campaign under the motto "Let's Put Every Hundredth of a Hectare Into the Job!", and "Every Hundredth of a Hectare for the Service of People!" The good example was taken up at the republic's local Soviets. The deputies make sure that land that is suitable for cultivation is not allowed to remain empty, and that there is a steady increase in the productivity of the private plots. For this purpose, with the aid of the kolkhozes and sovkhos, technical-cultivation measures are carried out on the private plots -- removal of old tree stumps and bushes and other operations. Such cultivated plots, which previously were ineffectively used, are being granted to families with many children, to retirees, and to those citizens who actively sell to the government the surplus products from their private plots. Larger plots are included in the kolkhoz land fund or are placed at the disposal of the subsidiary plots at industrial enterprises.

Of course we by no means imply that all the problems of the private plot have already been resolved. One can still sense an instability in the development of the private plots, the number of head of livestock there has been growing slowly, and in individual rayons one even observes a decrease in the number of head of livestock. Moreover, the productivity of the animals is still far from what is desired.

The peasant's private plot today needs, first of all, to be provided, in a centralized manner, with young animals of highly productive breeds, and also needs the constant renovation of the variety system for growing potatoes, and the improvement of the supply with seeds for regionalized varieties of vegetables. The agronomic and veterinary services also require improvement. Something that might be of great advantage is the organizing of a kind of general education system for zoological, veterinary, and agronomic skills for rural inhabitants.

The further development of private plots involves many problems of a social, moral, and ethical nature. An important aspect of the activity of the party, Soviet, and agricultural agencies in the republic is, in particular, the concern to see that the person's private plot does not interfere with the most important thing -- his work in social production. Consideration is taken of

the fact that for a rural inhabitant the taking care of his own garden and his household livestock and poultry requires constant worry. In order to facilitate the labor in the private plot, we are increasing the issuance of special technology and developing so-called "small mechanization." Enterprises in Kharkov, Kirovograd, and other cities have designed and are producing minitractors, manual seed drills, and sets of garden tools. The trade in these articles has been improved. Last year the people in the republic's cooperatives sold the public more than 3000 motorized units, approximately a thousand motorized cultivators, and hundreds of motorized mowers. But that's only a drop in the bucket. The union ministries whose enterprises produce approximately 70 percent of the tools for gardens and orchards must increase the production of small-sized technology. Much can also be done by the Soviets of People's Deputies whose jurisdiction includes local industry. And if the rural store does not have a shovel, a hoe, or a rake, that means that the local agencies of authority haven't done their job right.

To the rural worker it is not a matter of indifference how his private plot has been equipped, whether he has to go a long distance to get to it, and whether it is convenient to operate equipment on it. In many villages in Lvov Oblast the streets are built up compactly, with comfortable farmstead-type houses with plots of from 8 to 15 hundredths of a hectare alongside of them. But the basic plot is assigned as part of the total farmstead fund which is adjacent to the built-up territories. This makes it possible, when cultivating the land, to employ the equipment and to increase the yield from each hundredth hectare of the farmstead land. On the other hand, it also simplifies and reduces the cost of the engineering support for the building up of the villages, and the comfort level there is on a par with that in the cities. A large amount of work to reorganize life in the village is being carried out in Dnepropetrovsk, Donetsk, Crimean, Sumy, and other oblasts in the republic.

It is necessary to improve the organization of procurements of surplus agricultural products from the public. Recently the permanent commission on trade, of UkSSR Supreme Soviet, listened to reports given on this subject by the republic's union of consumer cooperatives. To give them their due, the people in our cooperatives have done a lot. They have noticeably increased the volume of sales on commission. Last year the volume of commodities in commission trade reached a billion rubles, or almost doubled as compared with 1980. There are more kolkhoz markets in operation, and there have been noticeable changes for the better in the organizing of their work. The network of acceptance points has expanded, the centralized delivery of purchased output is being introduced, and new capacities are being built to process and store it.

At the same time the purchase from the public of a considerable amount of output, especially seasonal produce, has been organized unsatisfactorily. The citizens could substantially increase the shipments of fruit-and-berry and vegetable-garden produce, especially of those types which, in the social sector, are labor-intensive and unprofitable. But we do not yet have an adequate network of seasonable acceptance points, or sufficient packaging materials and transportation; and long-term contractual ties between the

procurement services and the producers of the products, which would guarantee a steady sales market for the producers, are being put into practice slowly.

The public's private plots and the orchard and vegetable-garden associations are not only a solid support for socialized agricultural production. At the present-day stage they serve as one of the forms for combining the public's social and personal interests. It is no accident that in those labor collectives and populated points where the workers engage actively in work on their own private plots and in the growing of orchards and vegetable gardens, the organizational spirit and discipline are higher, there are fewer instances of drunkenness, and the job of indoctrinating children and involving them in healthy physical labor is carried out better.

Aware of the economic, social, and moral aspects of the development of people's private plots, the agencies of authority and the people's deputies in the republic will do everything to assure that they fulfill effectively the role that has been defined for them in the life of our society.

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AGRO-ECONOMICS AND ORGANIZATION

PROVISIONS FOR DEVELOPMENT OF HORTICULTURE DISCUSSED

Decree Promulgated

Moscow IZVESTIYA in Russian 7 Jun 86 p 2

/Article: "On Development of Collective Horticulture"/

/Text/ The USSR Council of Ministers has adopted the decree entitled "Measures for the Further Development of Collective Horticulture and Gardening." For the 1986-1990 period, it calls for an annual increase of 1-1.2 million gardening plots in the collective gardens.

The union republic councils of ministers must ensure that tracts of land are made available in the established manner to enterprises, organizations and institutes for collective horticulture and gardening.

USSR Gosagroprom, the councils of ministers of union and autonomous republics and the executive committees of local soviets of people's deputies have been tasked with developing and approving, during 1986, programs for the placement of collective gardens, the establishment (development) on the basis of contracts with horticultural associations of plans for the organization and building up of the territory for collective gardens and the carrying out of land reclamation, agrochemical and other land improvement operations using the resources of such associations.

USSR Gosagroprom and its organs in the various areas have been tasked with ensuring that the horticultural associations and collectives of gardeners are supplied (in response to their requests) with planting stock and the seed for fruit, berry, vegetable, floral and other crops. For the 1986-1990 period, tasks were established for the production of planting stock for fruit and berry crops for sale to the population.

Measures are required for increasing the production of summer gardening huts for sale to the population and for ensuring, commencing in 1987, complete satisfaction of the population's requirements for the principal types of lumber, construction and paint and varnish materials, sanitary-engineering equipment, brick, lime, gravel, crushed stone, sand and other local construction materials.

It has been established that the work carried out by enterprises and organizations for horticultural associations in connection with the construction

of summer gardening huts, land reclamation, the construction of roads, electrification, water supply and transport services is taken into account in the sales volume of paid services for the population, rendered by these enterprises and organizations (if such services are not their principal activity).

The recommendation has been made to have Tsentrosoyuz and the union republic councils of ministers ensure the purchasing of surplus agricultural products from the members of horticultural associations and other citizens and to organize the signing by consumer cooperation enterprises and organizations of contracts with horticultural associations which call for mutual obligations by the parties involved in connection with the acceptance, sale and shipping of agricultural products.

An expansion has taken place in the privileges associated with the acceptance into horticultural associations of unemployed participants in the Great Patriotic War and veterans of the USSR Armed Forces. Their acceptance into organized horticultural associations is authorized regardless of their departmental affiliation, in accordance with presentations by the executive committees of municipal (rayon) soviets of people's deputies and in number up to 20 percent of the number of members of the particular horticultural association.

The decree calls for a number of other measures aimed at improving the transport, domestic and trade services for the members of horticultural associations and gardening collectives.

Specialization, Regional Accommodation

UDC 631.151.2

Moscow EKONOMIKA SELSKOGO KHOZYAYSTVA in Russian No 5, May 86 pp 20-26

/Article by I. Kaganovich, Candidate of Economic Sciences and department head at the All-Union Scientific Research Institute of Horticulture imeni I.V. Michurin: "Specialization and Distribution of Industrial Horticulture"/

/Text/ The Basic Directions for the Economic and Social Development of the USSR During 1986-1990 and for the Period Up To the Year 2000 call for the production of fruit and berries to be raised to 14.5-15.5 million tons by the end of the 12th Five-Year Plan. This figure is higher than the volumes called for in the Food Program. The carrying out of the tasks established during the 27th CPSU Congress, with regard to the development of fruit gardening, will make it possible to bring about quality improvements in the nourishment of Soviet people. This is an important and difficult task.

Despite the successes achieved in the development of horticulture, the productivity of the plantings continues to remain low and is increasing only slowly. Over the past 15 years, at all categories of farms, it was raised by 11.7 quintals per hectare and at sovkhoses and kolkhoses -- by 10.4 quintals per hectare. The population's requirements for fruit and berries are not being satisfied fully. Each year the deliveries of fruit and berry products for processing amount to not more than 90 percent of the planned volume.

An analysis of horticultural development by union republics reveals that an increase in the gross yields of fruit and berries took place during the 11th Five-Year Plan as a result of production intensification and improved productivity for the plantings. The best results were achieved in the Moldavian SSR, where the average yield in 1981-1984 reached 71.2 quintals per hectare, Uzbek SSR -- 48.0, Georgian SSR -- 42.9, Tajik SSR -- 40.3, RSFSR -- 37.2 and in the Ukrainian SSR -- 35.6 quintals per hectare.

In the RSFSR, the increase in gross yield on public farms in 1981-1984 and compared to the 1966-1970 period was 541,600 tons, in the Ukrainian SSR -- 223,200, Moldavian SSR -- 243,100, Uzbek SSR -- 219,700 and in the Kazakh SSR -- 55,300 tons. In bringing about this increase, a decisive role was played by a concentration of industrial horticulture at large-scale agricultural farms of the agroindustrial type, the extensive introduction of more improved planting arrangements with a more dense placement of fruit trees and a limitation placed upon their size, the use of weak growing and average growth seedlings, the introduction of zonal technologies for the growing of effective varieties of fruit and berries and the mechanization of laborious operations. It was precisely in these republics that a large area of irrigated gardens was concentrated.

The further development of public horticulture is determined by the following organizational-economic measures: reorganization of the administrative structure in the various areas, a concentration of industrial horticulture at large specialized farms, more complete utilization of the potential afforded by agroindustrial associations for ensuring that canning plants are supplied with the required quantities and assortment of raw materials; intra-farm specialization, that is, the organization of specialized horticultural subunits (sections, departments, brigades) at kolkhozes and sovkhoses which do not specialize in horticulture but which have garden areas of not less than 80-100 hectares.

The analysis of horticultural development reveals that the entire increase in gross fruit production in the public sector since 1970 was obtained by means of specialized sovkhoses and inter-farm enterprises. The proportion of gardens of specialized farms in the public sector was raised considerably -- from 28.3 percent in 1970 to 43.7 percent in 1981-1984 and in the gross yield of fruit -- from 34.8 to 56.3 percent (see Table 1).

The productivity level for the fruit and berry crops, the yield of products per unit of labor expended and their quality and production costs are largely dependent upon the geographic location of the plantings, the availability of favorable economic and natural conditions and also upon the size of the farms and the direction and level of production specialization and intensification. In regions considered to be more favorable for horticulture, the productivity level is higher by a factor of 1.3-1.6 than the average for the USSR. Thus, in the RSFSR the proportion of specialized farms in the gross yield of sovkhoses and kolkhozes in 1981-1984 amounted to 78.7 percent, with a fruit and berry yield of 59 quintals per hectare and in the Belorussian SSR -- 16.5 and 9 quintals per hectare respectively.

An analysis of production distribution for fruit and berry products throughout the country has shown that a number of republics, zones and rayons having

extremely favorable natural-economic conditions produce very small quantities of fruit and berries per capita. During the 1981-1984 period, an annual average of 39.6 kilograms of fruit and berries per capita was produced in the USSR, in the Ukrainian SSR -- 63.6 kilograms, Belorussian SSR -- 56.6, the north Caucasus -- 77, Georgian SSR -- 188.3, Moldavian SSR -- 203.1, Azerbaijan SSR -- 47.4, Uzbek SSR -- 48.1 and in the Turkmen SSR -- 13.8 kilograms.

TABLE 1

Fruit Production in the Public Sector and at Specialized Farms in the USSR

	1970	Average for 1981- 1984
Area of gardens in public sector, thousands of hectares	2314.3	1907.7
Including:		
at specialized sovkhoses and inter-farm enterprises	656	833.9
at kolkhozes and non-specialized farms	1658.3	1073.8
Proportion of specialized farms, %	28.3	43.7
Gross yield of fruit and berries in public sector, in thousands of tons	3634	4622.2
Including:		
at specialized sovkhoses and inter-farm enterprises	1265.4	2600.6
at kolkhozes and non-specialized farms	2368.6	2021.6
Proportion of specialized farms, %	34.8	56.3
Productivity of gardens in public sector, quintals per hectare	27.4	36.9
Including:		
at specialized sovkhoses and inter-farm enterprises	42.4	56.6
at kolkhozes and non-specialized farms	23.1	25.5

For the future, the task consists of completely covering the intra-republic requirements and ensuring the shipping of certain types of products: peaches, apricots, mazzard cherries, late ripening varieties of apples and pears, to regions which do not have favorable conditions for their growth.

The mass importing of fruit is planned only for those zones which lack favorable conditions for industrial horticulture. These include such regions as the Urals, Siberia, the Far East, the steppe regions of Kazakhstan, the European north of the USSR and also the large centers of the country -- Moscow and Leningrad. At the same time, even in the mentioned zones more complete use must be made of the available potential for increasing the production of fruit and berry products, particularly those types which are being cultivated successfully under local conditions and which ensure a high profitability.

In the program for the development and distribution of horticulture, the task has been assigned of increasing the production of fruit and berries in volumes which will fully satisfy the requirements of the country's population for fruit and berry products, throughout the entire year in conformity with the consumption norm -- 75 kilograms, including 68 kilograms of fruit and berries

and 7 kilograms of grapes; a substantial increase must be achieved in the production of fruit and berry products, with minimal expenditures of labor and resources per unit of product.

The plans call for the principal volume of fruit and berries to be concentrated in the southern portion of the European part of the USSR (Ukrainian SSR, Moldavian SSR, Trans-Caucasus republics, Central-Chernozem and north Caucasus regions), where approximately 70 percent of our country's gross yield will be produced, up to 17 percent must be furnished by the republics of Central Asia and Kazakhstan and slightly more than 11 percent -- by the northern and central portions of the European part of the USSR.

The average indicators for the republics, krays and oblasts are lagging considerably behind the level achieved on leading farms (see Table 2). Studies carried out by the All-Union Scientific Research Institute of Horticulture imeni I.V. Michurin in various zones of the country reveal that the intensive specialization of horticultural farms makes it possible to increase more rapidly the production of fruit and berries and to achieve a higher and regular productivity for the plantings, a considerable increase in labor productivity, a reduction in production costs and, on this basis, a sharp increase in production profitability (see Table 3).

TABLE 2
Effectiveness of Horticulture In Leading Agroindustrial Associations
(1981-1984)

	Voronezh	Kursk	Krasnodar	Stavropol	Rostov
Number of specialized farms	18	10	31	23	26
Gardens and berry patches on a farm, hectares	684	922	1048	623	981
Including fruit-bearing, hectares	334	702	575	208	424
Fruit production volume per farm, thousands of tons	3.4	7.2	6.9	1.8	3.4
Productivity of pip fruits, quintals per hectare	107.5	106.7	123.5	84.1	87.9
Production cost per quintal of fruit, rubles	10.53	12.70	13.89	20.18	14.85
Profit per hectare of fruit-bearing garden, rubles	1547	2001	2507	1580	1056

On the average, there are only 374 hectares of gardens per specialized horticultural sovkhov throughout the country and the average annual production volume for fruit and berries is 1,100 tons, whereas on leading farms the area is greater by a factor of 4-5 and the productivity higher by a factor of 2.5-3. Thus the Krylovskiy Sovkhoz in Voronezh Oblast has a garden area of 1,229 hectares and an average annual production volume of 10,800 tons, the average productivity for pip fruit during the 1981-1984 period was 138.7 quintals per hectare at a production cost of 7.82 rubles per quintal of fruit, the profit per hectare of planting -- 2,786 rubles and the profitability level -- 165 percent; at the Agronom Sovkhoz in Krasnodarskiy Kray the fruit production volume was 27,100 tons, the profitability was 191.3 quintals per hectare for a

TABLE 3
Economic Effectiveness of Horticulture Depending Upon the Level of Farm
Specialization in the Central Chernozem Region (1981-1984)

Portion of horticultural output in marketable output of sovkhoses by farm groups, %	Number of farms in group	Per Farm		Portion of gardening output in marketable output, %	P/p fruit productivity, quintals per hectare	Production cost per quintal of p/p fruit, rubles	Profit per hectare of fruit- bearing plantings, rubles	Profit- ability level, %
		Gardens, hectares	Annual fruit production volume, tons					
Up to 40	21	646	1172	21.8	50.3	16.09	373	36.8
From 40 to 60	16	830	2899	51.2	58.3	16.77	528	40.7
From 60 to 80	23	782	3934	68.2	78.7	15.23	987	66.2
More than 80	14	918	7361	86.0	116.9	11.12	2165	122.2
Total (average)	74	779	3675	59.5	79.9	13.97	1101	76.0

production cost per quintal of 10.09 rubles, the profit per hectare of planting was 6,243 rubles and the profitability level -- 155 percent.

At the present time, all of the horticultural farms have been transferred over to the USSR Gosagroprom system. However, more than 900,000 hectares of garden space are still being maintained by kolkhozes and sovkhoses which do not specialize in horticulture. This space is dispersed among 21,800 farms, with the average size for a garden being 37.6 hectares. The task consists of carrying out organizational-economic measures, creating specialized departments with the necessary equipment and improving the status of plantings in the largest group of kolkhozes -- those having garden areas up to 300 hectares. This applies to farms in the Crimea Oblast, the Ukrainian SSR, the north Caucasus and regions with developed horticulture.

The All-Union Scientific Research Institute of Horticulture, jointly with the planning institutes, prepared the following documents: "A Method for Selecting Land Tracts for the Planting of Industrial Gardens," "The Organization of Territory for Fruit and Berry Plantings" and "Instructions for Planting Orchards, Vineyards and Plant Nurseries," on the basis of which new and modernized orchards, berry patches, vineyards and plant nurseries must be created. The problems concerned with planning in these documents are viewed from an overall standpoint. This includes the planning of agricultural zones for orchards, protective strips, a road network, anti-erosion installations, brigade camps, permanent stations for the preparation of toxic chemicals, warehouses for the storage of toxic chemicals and fertilizers; planning for an industrial and production zone (fruit warehouses, enterprises for the processing of fruit and so forth), housing and cultural-domestic installations and work and recreation camps.

Improvements in the supply of fruit and berries for the population, in fresh and processed form, are possible only if an all-round approach is employed for the production, procurement, transporting, storage, processing and sale of the products. A great amount of work remains to be carried out in connection with the re-equipping of those kolkhoz and sovkhos enterprises which produce juices, beverages, jams and other products.

Importance is attached to ensuring that the packaging provided for these products is attractive and suitable for the consumers. In recent years there has been an increase in the demand for products in light packaging, especially for juices and beverages.

The production of canned fruit is increasing mainly owing to juices and jams. This circumstance and also the low percentage of processed stone fruit and berries has produced a situation wherein the demand for preserves, stewed fruit, jams and canned children's and dietetic foods is not being satisfied. In the overall production volume for canned fruit, stewed fruit constitutes only 10.5 percent, preserves -- 2.4 and jams -- 3.3 percent.

The placing in operation of fruit storage facilities, the plans for which call for an increase in capacity by a factor of 2.8, will make it possible to change radically the technology for harvesting fruit. The fruit of autumn and winter ripening periods can be stored in fruit storage facilities prior to the completion of urgent operations in the orchards. As a result, the requirement for manpower and transport during the tense mass harvesting period is lowered by roughly twofold. The labor expenditures for each ton of apples are lowered by 10-15 man-hours.

An analysis of labor expenditures at processing enterprises of the Agronom Sovkhoz in Lipetsk Oblast during the fruit harvesting period, that is, from August to October, reveals that 35 percent of the annual expenditures occur during this period. For harvesting the fruit during this same period -- 81.2 percent. When placing a volume of 3,900 tons of fruit in storage during the harvest period, a savings of more than 50,000 man-hours is achieved and the additional profit realized from storage of the fruit amounts to 530,000 rubles, or 154 rubles per ton as a result of later periods for the sale of the fruit.

At the present time, the initial step has been taken towards stimulating the storage of fruit in the production areas, with the fruit being paid for in accordance with the purchase prices which prevailed at the moment they were placed in storage, prices set forth in a farm's invoice-account. Subsequently, following shipment of the products from the storage area, an additional computation is carried out and the procurement specialist reimburses the farm for the difference in the purchase price prevailing at the moment of storage and shipment and also for the expenses associated with storage in accordance with the norms.

However, the chief obstacle with regard to organizing prolonged storage continues to be the system for crediting products consigned to prolonged storage towards fulfillment of the state procurement plan. The crediting is carried out during the year of actual sale, in accordance with the acceptance receipts for the particular specimen, turned over to the farm by the procurement specialist at the moment the products were shipped. Thus one part of the harvest obtained is credited towards fulfillment of the state procurement plan for one year and another part for another year. This explains the desire on the part of farm leaders and specialists to sell their products as rapidly as possible prior to the end of the year.

The further development of horticulture and a strengthening of the logistical base for horticultural farms require considerable improvements in organizing and

increasing the volumes of housing, municipal, cultural-domestic and highway construction in the rural areas. Studies have shown that at those enterprises where fine conditions are being created for solving social problems the expenses for socio-cultural needs are greater, the productivity of orchards is higher and also the profitability of horticulture and the production costs for goods produced are lower (see Table 4).

TABLE 4

Effectiveness of Orchards at Kolkhozes in Central Chernozem Region
Depending Upon Non-Productive Capital (1981-1984)

Группы совхозов по доле непроизводительных фондов во всех основных фондах, % (1)	Коли- чество совхозов (2)	Пронз- водство плодов и ягод на 1 хо- зяйство, (3)	Урожай- ность семян- ковых плодов, ц/га (4)	Себе- стои- мость 1 ц семян- ковых плодов, (5)	Прибыль на 1 га плодоно- ящего сада, руб. (6)	Уровень рента- бель- ности, % (7)	Числен- ность рабочих на 100 га сельско- хозяй- ственных у(8)
До 15 (9)	16	2716	71,1	15,11	543	70,7	9
От 15 до 22 (10)	31	3815	74,4	13,94	1504	78,1	10
Свыше 22 (11)	27	3808	92,5	13,52	1630	76,0	13
Всего (12)	74	3675	79,9	13,97	1448	76,0	11

Key:

1. Sovkhoz groups according to proportion of non-productive capital compared to all fixed capital, %
2. Number of sovkhoses
3. Fruit and berry production per farm, tons
4. Pip fruit productivity, quintals per hectare
5. Production cost per quintal of pip fruit, rubles
6. Profit per hectare of fruit-bearing orchard, rubles
7. Profitability level, %
8. Number of workers per 100 hectares of agricultural land
9. Up to 15
10. From 15 to 22
11. More than 22
12. Total

In order to carry out the planned program for increasing the production of fruit and berries, the modernization of low productivity plantings must be completed. At the present time, there are many pip fruit orchards which are 50 years or more in age. A portion of them were planted for the purpose of satisfying the internal requirements of farms and in later years they were not modernized. The average annual planting area for orchards was 63,300 hectares. In future years, a need will exist for accelerating the planting rates and raising the average planting area to 80,000 hectares, including at specialized sovkhoses to 60,000 hectares annually.

The production experience accumulated by a number of farms confirms the possibility of carrying out the modernization of orchards and the replacement of low-productivity amortized and sparse plantings with new ones, within the limits of existing areas and not only with no reduction but in fact with an increase in the productivity and gross yields of fruit. Over the past few years, the modernization of orchards has been carried out on an area of 1,200 hectares at the Sad-Gigant Sovkhoz of the Kubanplodoprom Association. Soil preparation work was carried out and new orchards consisting of highly valuable

varieties with multiplying roots. The area of fruit-bearing plantings increased from 1,220 hectares in 1971-1975 to 1,525 hectares in 1981-1984, the average annual production volume for fruit and berries increased from 18,700 to 21,300 tons, the profit per hectare of fruit-bearing orchard -- from 3,902 to 5,467 rubles and the profitability level for horticulture -- from 71.3 to 156.7 percent. During 4 years of the 11th Five-Year Plan, the productivity of pip fruit orchards amounted to 141.2 quintals per hectare, with a production cost per quintal of fruit of 13.32 rubles.

When modernizing and establishing new plantings, importance is attached to increasing the proportion of orchards based upon clone root stock. Weak-growing clone root stock accelerates considerably the onset of fruiting, it possesses a high productivity and it produces high quality fruit: large size, intense coloring and fine taste and keeping quality.

The limited growth strength of such orchards facilitates the tending of the crowns of the trees and the harvesting of the crop and the picking of the fruit from the ground in the absence of ladders and supports. Labor expenditures for labor-intensive operations are lowered by 20-25 percent.

For the RSFSR, in 1984, the productivity of orchards based upon clone root stock at specialized horticultural farms amounted to 97 quintals per hectare, with a production cost of 16.1 rubles per quintal and expenditures for the production of 1 quintal of fruit -- 4.6 man-hours. In orchards based upon strongly growing root stock, the productivity was 64.3 quintals per hectare, with production costs of 17.9 rubles per quintal and labor expenditures per quintal -- 5.3 man-hours. At the Arkhipo-Osipovskiy Sovkhoz in Krasnodar Kray, where a considerable proportion of the plantings is occupied by orchards based upon clone root stock, the pip fruit productivity reached an average of 187.4 quintals of fruit per hectare during the 1981-1984 period, with a production cost per quintal of 13.1 rubles, the profit per hectare was 7,846 rubles and the profitability level for horticulture -- 283 percent.

At the Pamyati Iliche inter-farm enterprise in Slobodzeyskiy Rayon in the Moldavian SSR, intensive orchards were started based upon weak-growing and average-growth clonal root stock. Of an overall area of plantings of 4,113 hectares, 3,683 hectares or 89.5 percent were planted in pip fruit. Their average productivity during 1981-1983 was 200.6 quintals per hectare, with a production cost per quintal of fruit of 14.65 rubles, a profit from horticulture of 11 million rubles or 4,200 rubles per hectare and a profitability level for horticulture of 109 percent. Despite the effectiveness of such orchards, their proportion, even in republics possessing very favorable conditions for their cultivation, is extremely small.

For the USSR as a whole, their area does not exceed 103,000 hectares. The RSFSR, the Ukrainian SSR and the Moldavian SSR account for 83.7 percent of this area. The proportion of intensive type orchards is low in the Belorussian SSR, the republics of Central Asia, Azerbaijan SSR and the Georgian SSR. Over the course of the next three five-year plans, the number of orchards based upon clone root stock in the principal zones of industrial horticulture in the southern European part of the USSR (Ukrainian SSR, Moldavian SSR, Trans-Caucasus republics, Central Chernozem and north Caucasus regions), the central Asian republics and Kazakhstan, the Belorussian SSR and the Baltic republics must be increased to 35-45 percent.

In horticultural development, a special role must be played by the introduction of new zonal technologies for the cultivation and harvesting of fruit and berry crops. Their chief trend is the creation of highly productive plantings through the planting of large industrial orchards of the intensive type, the use of special varieties and root stock, the observance of a high agrotechnical level, the use of irrigation, protection of the orchards against pests and diseases and modern industrial technologies for the production, harvesting, commodity processing, storage and sale of fruit.

At the All-Union Scientific Research Institute of Horticulture imeni I.V. Michurin, a zonal technology has been developed and is being introduced into operations for the cultivation of intensive orchards in the Central Chernozem Region and the Volga area. It calls for an optimum density for the placement of fruit trees and the introduction of early-maturing and highly productive varieties suitable for extended storage. The basis for this technology is the creation of small-scale semi-flat and spindle-shaped groupings of fruit trees, a system of mechanized rejuvenescent clippings and a joint and deep application of mineral fertilizer. A flow-line technology has been developed and introduced into production for the harvesting and transporting of fruit from an orchard, using low-clearance and self-discharging PT-35 and VUK-3 container carriers. By means of production intensification alone, the average annual production volume for fruit in the Central Chernozem Region increased by a factor of 2.3, including at sovkhozes and kolkhozes from 141.7 to 303.6 thousand tons, of which amount 283.1 thousand tons were produced at specialized farms. This latter amount was 51.6 percent of the gross yield at all categories of farms or 93.2 percent of the gross yield of farms in the public sector. The production cost per quintal of fruit was 13.96 rubles and the profit per hectare of planting -- 1,101 rubles.

Use of the industrial technology for cultivating stone fruit crops, developed at the Kodru NPO /scientific production association/ in the Moldavian SSR, makes it possible to obtain 200 quintals of plums per hectare and lower labor expenditures by three fold and the production cost to 4 rubles per quintal of product. With the mechanized technology for cultivating plantings and harvesting cherries in the central zone of the USSR (All-Union Scientific Research Institute of Horticulture imeni I.V. Michurin), using the VUM-15A machine, labor productivity is raised by a factor of 5-8, the production cost is lowered twofold and the profit per hectare of orchard is increased by a factor of 1.5 compared to the existing method for cultivating cherries and harvesting the crop manually.

During the 12th Five-Year Plan, approximately 135 sovkhozes and 56 kolkhozes will additionally specialize in the production of fruit and berry products, mainly in the southern regions of the RSFSR, the Ukrainian SSR, Kazakh SSR, the republics of Central Asia, the Trans-Caucasus and the Moldavian SSR, for the purpose of supplying cities in the center and the northern European part of the country, the Urals, Siberia and the Far East. In the nonchernozem zone, the Urals, Siberia and the Far East, the plans call for the production of berry crops for local consumption.

Irrigation is a most important factor with regard to horticultural intensification in zones having inadequate moisture. Leading horticultural

sovkhozes are obtaining 2-3 times more fruit from one irrigated hectare than is being obtained at orchards which lack irrigation. During the 1981-1984 period, the gross yield was increased by 600,000 tons by raising the productivity of the orchards and berry patches from 37.5 to 49.5 quintals and by increasing the area of the irrigated orchards.

The proportion of irrigated orchards in the public sector is 35.1 percent. The greatest increase in irrigated orchards is planned for the Moldavian SSR, the Ukrainian SSR, the Uzbek SSR and for other territories having insufficient moisture.

In recent years, the strain-varietal structure of the fruit and berry crops has improved somewhat. However, the population is still not being adequately supplied with fresh fruit during the off-season period and the requirements of the processing industry are not being satisfied. The planting structure still contains a low proportion of winter varieties of apple and pear trees, the fruit of which is suitable for extended storage. For the USSR as a whole, the winter varieties of fruit bearing apple trees at specialized sovkhozes amount to 61 percent and in some republics -- 50-55 percent, whereas these figures should be not less than 65-70 percent.

The low quality of the fruit being procured is being caused by several factors: a large proportion of summer varieties, shortcomings in the organization of the fruit harvesting work and weak material-technical equipping of the procurement organizations. The average sales price for 1 ton of apples in 1981-1984 was 344 rubles, the highest, first and second marketable varieties constituted 66.8 percent of the overall volume and the third variety -- 33.2 percent, whereas on leading farms the sales price for 1 ton of apples was 400-450 rubles and the proportion of high marketable varieties -- 80-85 percent.

An especially unfavorable situation existed in connection with the production of stone fruit crops. In accordance with the rational norm for fruit consumption, the proportion of stone fruit should be 14.4 percent. Actually, a stable trend towards an increase in the production of pip fruit crops, mainly apples, is being observed at the kolkhozes and sovkhozes, while the production of stone fruit crops appears to be declining somewhat. Thus, an average of 488,000 tons was obtained during the 9th Five-Year Plan (1971-1975) and during the 10th (1976-1980) -- 391,000, that is, 97,000 tons less and in 1981-1984 408,000 tons were produced.

The proportion of stone fruit crops in public orchards is 12.8 percent. Over the past 15 years, from 1970 to 1984, the area of stone fruit crops in the public sector decreased by 71,000 hectares, including by 39,600 hectares in the Russian Federation, mainly as a result of a sharp decline in the areas for such valuable crops as cherries -- from 39,700 to 13,300 hectares or by 65.7 percent, plums -- from 25,900 to 13,300 hectares or by 48.6 percent, mazzard cherries -- from 10,400 to 7,100 hectares or by 31.7 percent and apricots -- from 8,300 to 5,000 hectares or by 39.8 percent. The private sector now accounts for 77.7 percent of their gross production.

The chief restraining factors with regard to realizing an increase in the production of stone fruit crops are the following: a higher degree of labor

intensiveness in the cultivation of these crops compared to pip fruit crops and complicated transport operations which inhibit the sale of these products in fresh form and in large batches. Over the past few years alone, as a result of measures undertaken aimed at increasing production and raising the purchase prices an average of 50 percent, the area set aside for stone fruit crops increased somewhat.

In particular, a great amount of importance is being attached to intra-branch specialization in the planting of crops which have a comparatively limited zone of cultivation, for example peaches, mazzard cherries, high quality varieties of plums, apricots, late-winter, long-keeping and transportable dessert varieties of apples and pears and early varieties of strawberries. The plans call for an increase at all categories of farms in the production of pip fruit crops by a factor of 1.7, stone fruit crops -- 1.8, berries -- 1.5, nuts -- 1.8 and sub-tropical and citrus fruit -- by a factor of 1.6 compared to the average annual production in 1981-1984.

The structure of the products being produced is changing somewhat. The proportion of stone fruit crops is increasing to 17.9 percent, nuts -- to 0.7, berries -- to 3.2 and sub-tropical and citrus fruit -- to 4.0, while that for pip fruit crops is decreasing from 78.5 to 74.2 percent.

The carrying out of the measures planned will ensure the production of fruit and berries in volumes deemed adequate for satisfying completely the population's requirements and also the requirements of the processing industry for the needed assortment of raw materials.

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AGRO-ECONOMICS AND ORGANIZATION

GOSAGROPROM'S SIZENKO INTERVIEWED ON RESTRUCTURING

Minsk SELSKAYA GAZETA in Russian 12 Jun 86 p 2

[Interview with Yevgeniy Ivanovich Sizenko, first deputy chairman of USSR Gosagroprom, date and place not specified]

[Text] [Question] Yevgeniy Ivanovich, what can be said about the initial stage in restructuring the agroindustrial complex, the organizational stage, and to what extent does the current administrative structure of the agroindustrial complex fit the tasks it has been given?

[Answer] It would seem logical to begin with just that, the tasks. The Political Report of the CPSU Central Committee to the 27th congress especially underlined the need for a decisive turnaround in the agrarian sector of the economy so that we can achieve a marked improvement in the supply of food products to the population before this five-year plan is over. Let us look at the facts. Last year per capita consumption was 61 kilograms of meat, 323 kilograms of milk, 260 eggs, 102 kilograms of vegetables and melons, 46 kilograms of fruit and berries, and 42 kilograms of sugar. Overall the average daily food consumption per person today is about 3,400 calories. This indicator is at the level of the most developed countries. But still, we do not have enough meat, milk, fruit, and vegetables. This gives rise to the task: more than double the growth rate of agricultural production in the 12th Five-Year Plan and achieve a significant increase in per capital consumption of meat, milk, fruit, and vegetables.

To accomplish the goals that have been outlined we must significantly increase the return from accumulated potential, accelerate scientific-technical progress, and achieve far-reaching integration of kolkhoz-sovkhoz production with the processing industry. How is it to be done? Life itself has shown that the most efficient way is to join the efforts of all sectors of the agroindustrial complex and give the partners an interest in receiving good final results.

That is why USSR Gosagroprom, the sole management organ of the agroindustrial complex, was formed. It is expected to ensure flexible and operational direction of all elements of the agroindustrial complex and fundamentally change the economic relations of the kolkhozes and sovkhozes with processing and service enterprises. With the formation of Gosagroprom it became possible to plan, finance, and manage the agroindustrial complex as a single unit at all levels.

[Question] Under the new conditions of economic activity the functions of each element of the administrative system are clearly defined. As the central management organ USSR Gosagroprom concentrates its attention on solving the strategic problems of the agroindustrial complex, those that determine accelerated and balanced development of all its sectors, as they say, from the field to the store. Integration within the agroindustrial complex is one of the most critical problems. It is during the shipping of agricultural output and its processing and storage that considerable losses occur. How can they be reduced?

[Answer] Indeed, it is a very, very serious problem. A great deal of grain, sugar beets, potatoes, fruit, vegetables, and other output is lost because of the shortage of means of transportation and storage, and sometimes also irrational use of them, as well as imperfect processing and storage technology. The first thing needed here is a sharp improvement in the production base of processing enterprises. In the current five-year plan a program of measures aimed at accelerated development of their material-technical base has been outlined; this will make it possible to raise the work of the entire food industry to a qualitatively new level. We must also switch to progressive methods of storing agricultural products and straighten out the centralized hauling system.

Plans for the 12th Five-Year Plan envision incorporating production of 585 very important types of new, highly efficient technical equipment for producing potato products, quick-frozen fruit and vegetable products, dried fruit, deep milk processing, and so on.

As for centralizing hauling, that is, organizing the receiving of products right at the farm, I will cite this example in its favor. In Belgorod Oblast 95 percent of the milk and 52 percent of the livestock are received right at the farms. The economic impact is about 2 million rubles a year. This experience is very instructive. And the success of the work depends largely on local initiative. The people in Belgorod Oblast were able to prepare the material-technical base, roads, means of transportation, and the like in a short period of time.

[Question] And all of these problems should be the concern not only of USSR Gosagroprom, but also of the administrative organs of the agroindustrial complex in the local areas: the republics, krays and oblasts, and rayons...

[Answer] Unquestionably, the gosagroproms of the Union republics and the agroindustrial committees of the autonomous republics, krays, and oblasts are fully responsible for the delivery of agricultural products and for centralized fund allocations, just as they are responsible for maximum utilization of local opportunities for improving the supply of food products to the population.

In their turn, the RAPO's [rayon agroindustrial associations], as the primary elements in the administrative system of the agroindustrial complex, are expected to create all necessary conditions for beneficial work by kolkhozes, sovkhoses, and their partners, to become real headquarters in the cause of organizing the production of agricultural products. As has been done by the agroindustrial associations of Abashskiy Rayon in Georgia, Vilyandiskiy Rayon in Estonia, and Vileyskiy Rayon in Belorussia. They are energetically introducing the collective contract, cost accounting, and intensive technology for raising field crops at the farms, eliminating disproportions in development of sectors

of the agroindustrial complex, and establishing precise economic relations among them.

The RAPO's face a number of difficult tasks in the first stage of activity. One of them is creating a unified engineering service which could implement technical policy at all enterprises of the agroprom within the limits of the administrative region, while the results of its work would depend entirely on the quantity and quality of output received. Another, equally important problem is setting up a material-technical supply and batching service. Considering that USSR Gosagroprom is now the only allocator of material resources, we must fundamentally change our attitude toward supply issues, eliminate the multiple channels that formerly existed in planning supply, bring the goods delivery system closer to the customers, and make supply more flexible.

The RAPO's have received broad powers under the new conditions of economic activity. They can plan and distribute capital investment and material resources independently and determine assignments for their partners on the basis of kolkhoz and sovkhos orders.

[Question] The restructuring of management has been reinforced with a new economic mechanism of economic activity. What are its fundamental features?

[Answer] The decree of the CPSU Central Committee and USSR Council of Ministers on further refinement of the economic mechanism of economic activity in the national agroindustrial complex outlined a whole series of specific steps to develop the agroindustrial complex.

For example, it is envisioned that there will be a transition to the normative method of determining the volumes of production and state purchase of agricultural crops and supply of material-technical resources. Planning will now be done on the basis of control figures for state purchases of output and ceilings on capital investment and deliveries of the main types of machinery and equipment, established in the proper manner and determined starting from norms that take account of the economic valuation of the land and the availability of fixed production capital and labor and other resources. These norms and being worked out and tested actively today at agroprom enterprises.

Stable plans of state grain purchases by years have been established for the 12th Five-Year Plan. For other output only plans for delivery to USSR and republic resources by years of the five-year plan will be given to Union and autonomous republics, krays, and oblasts. To give local organs a greater interest in increasing the production of food products and improving supply of food products to the population, after fulfillment of plans for delivery of meat, milk, and other output to centralized resources the rest of this output will be left at their disposal. Kolkhozes and sovkhoses are being given the right to sell all above-plan output and a significant share of the planned output of potatoes and vegetables through the cooperative trade system and at kolkhoz markets.

Restructuring of management is organically linked with intensification of cost accounting and universal switching to the principles of self-financing and paying for oneself. This means that enterprises must develop production out of

their own resources. At the same time this increases the responsibility of people for final results.

[Question] So we have come to the role of the human factor in carrying out the Food Program, to the need for psychological restructuring...

[Answer] As was emphasized at the congress, not a single economic problem can be solved without this. And if we are talking about the psychological restructuring of cadres, it should be noted that this must reach not only the administrative level of the agroindustrial complex and the specialists, but also those who actually work in the fields and at the livestock farms and at processing and other enterprises of the agroindustrial complex.

A great deal has been said and written about excessive supervision of kolkhozes and sovkhoses. They have now been given independence in deciding economic matters. But the farms still continue to receive various orders and instructions "from above" and all kinds of unnecessary information is demanded from them. On the other hand, some people are used to being told what to do, and now they are confused -- what will they do without orders?

The primary goal of restructuring is to create all necessary conditions for broad application of economic methods of management, to increase the independence of enterprises, to give them room for management maneuvering, and to free them from excessive supervision. And there is no question that psychological restructuring of cadres is an essential condition for this. It is crucial in this to instill people with qualities such as initiative, enterprise, and a sense of duty.

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TILLING AND CROPPING TECHNOLOGY

SPRING WHEAT UNDER INTENSIVE TECHNOLOGY IN SIBERIA

Moscow ZASHCHITA RASTENIY in Russian No 4, Apr 86 pp 10-11

[Article by T. B. Prokhorova: "Experience of Siberians". For related material please see JPRS-UAG-86-007 of 4 Mar 1986 pp 55-58, 63-70]

[Text] Recently the CPSU Central Committee examined the matter "Concerning the Work of the Siberian Department of the All-Union Academy of Agricultural Sciences imeni V. I. Lenin on the Fulfillment of the Decrees of the CPSU Central Committee and the USSR Council of Ministers on an Increase in the Production of High-Quality Spring Wheat Grain Through the Intensification of Its Cultivation."

The adopted decree notes that in the realization of the country's Food Program and, especially, in ensuring a stable growth of grain production an important role belongs to Siberia's agriculture. Many farms in this region, utilizing the achievements of science and advanced experience, stably obtain high harvests and increase the efficiency of grain farming. At the same time, the capabilities of Siberia's farming are not utilized fully. In a number of the region's rayons the planned return on intensive technologies has not been attained and the obtained yield of spring wheat is below the set assignments. The Siberian Department of the All-Union Academy of Agricultural Sciences imeni V. I. Lenin slowly reorganizes the techniques and methods of its work and the conducted research is not of a system nature and in a number of directions lags behind the requirements of intensification of grain farming. The decree also points out that problems of an integrated protection of plants against pests, diseases, and weeds are not studied sufficiently. Selection centers for breeding high-yielding varieties of grain crops, especially spring wheat, resistant to unfavorable conditions, pests, and diseases operate with low efficiency. During the introduction of intensive technologies violations in agrotechnical requirements have been tolerated and work on plant protection has not been carried out in an overall manner, which has led to losses of a considerable part of the harvest.

It was proposed that the forces and means of scientific research institutions be concentrated on an efficient utilization of the scientific and production potential available in the region and that work on extensively introducing the achievements of science and advanced experience, mastering intensive technologies of cultivation of agricultural crops, and obtaining the

programmed harvests be improved fundamentally.

Such experience exists. For example, let us take Novosibirsk Oblast. The mastering of new technology was begun there last year. Careful preparations for the extensive production experiment were made. Scientists at scientific research institutes of farming and chemicalization, plant growing and selection, and economics of agriculture jointly with specialists of the oblast agroindustrial association worked out recommendations for intensive production of spring wheat grain with due regard for the characteristics of the oblast's natural and climatic zones. Efficient crop rotations (three- or four-field grain fallow crop rotations for steppe and southern forest steppe zones and grain fallow and grain row crop rotations for the northern forest steppe zone), a system of soil cultivation with the inclusion of antierosion measures (moldboardless plowing, coulisse fallow, and so forth), methods of moisture retention in soil, the optimal ratio of varieties of different ripening periods for every zone, and differentiated norms of application of mineral fertilizers depending on the provision of soil with nutrient elements, the predecessor, and the type of soil were proposed.

Along with agrotechnical measures detailed recommendations for an efficient utilization of herbicides and their mixtures with due regard for the species composition of weeds and the degree of weediness are given in the system of weed control. Methods of protecting crops against pests and diseases, like other elements of intensive technology, have been developed separately for each zone with due regard for the possible harmfulness of species specific for a given zone. The list of agrotechnical and chemical measures is given both for wheat crops and for fallow fields preceding them. However, it is recommended that a decision on the advisability of chemical treatments be made only on the basis of a phytosanitary diagnosis. For pests and diseases most widespread in the oblast economic thresholds of harmfulness are presented and periods of examinations are indicated.

These recommendations were sent out to all farms. Scientists at the Siberian Scientific Research Institute of Grain Farming and specialists at the Novosibirsk Plant Protection Station and at the oblast administration of agriculture held a series of classes with managers and chief agronomists of rayon administrations and farms. On kolkhozes and sovkhoses more than 7,000 machine operators mastered methods of intensive technology.

Spring wheat was placed in crop rotations on clean fallow (318,500 hectares) and as a second crop after fallow (376,500 hectares). For a full description of every field special documents indicating the area, grown variety, planned yield, type and texture of soil, and predecessors were introduced. After a field examination conducted by specialists of stations for chemicalization and plant protection together with farm agronomists the content of humus and nutrient elements in soil and the phytosanitary condition of the field (types and amounts of weeds, diseases, and pests) are noted in the document. On the basis of these data the plan for the application of chemicalization agents is drawn up. Such documents have helped to distribute fertilizers and pesticides more correctly and to utilize them more efficiently.

The best regionalized strong wheat varieties, that is, Novosibirskaya 67,

Saratovskaya 29, Lyutetsens 57, and Irtyshanka 10, were selected for cultivation according to intensive technology. They occupied 83 percent of the "intensive fields" and the valuable Pirotriaks 28 and Skala varieties were sown on the rest.

For the disinfection of grain, along with previously used pentathiuram and vitavax, baytan and fundozol were delivered to the oblast's farms and 18,000 tons of seeds were treated with them. In all, 137,000 tons--all seeds--were treated last year. In order to improve the technology of seed preparation for sowing, part of the seeds were treated with a film-forming compound. The experiment proved to be successful and this year all the seeds intended for intensive wheat cultivation (140,000 tons) will be treated in this way.

Associates at the oblast toxicological control laboratory checked the quality of treatment. They traveled to farms and, applying the quick method, determined the content of disinfectants in the treated batches of seeds. If they uncovered deviations, they made a correction and an additional adjustment of machines. Unfortunately, the small staff of the toxicological control laboratory manages to check only a small number of farms, because seeds are disinfected throughout the oblast at the same time--as a rule, 2 weeks before sowing. Even if specialists of rayon plant protection stations send samples for analysis to the toxicological control laboratory, when understated norms are disclosed, it is impossible to rectify the situation. Meanwhile, the need for corrections arises quite often. For example, in only 6 out of the 17 rayons checked last year there were no deviations in the expenditure of the disinfectant. However, in the rest the understatement of norms made up from 20 to 60 percent. The efficiency of disinfection is also lowered owing to the lack of warehouses and covered threshing floors in the oblast.

Weed control was carried out on the basis of field mapping data. Triallate was applied in rayons, where wild oats were widespread (primarily when wheat was sown on fallow in forest-steppe zones). An especially high effect (90 to 95 percent) was obtained when the herbicide was applied with boom sprayers mounted on stubble breakers. Such a unit makes it possible not only to quickly and carefully place the preparation in soil, but also to prevent skimmed patches or overlaps (and, therefore, an overdosage of the herbicide) during spraying because the wheels of the stubble breaker leave a marker track.

During the period of vegetation (at the tillering phase) chemical weeding was carried out with 2,4-D amine salt and, in case of weediness with species resistant to this herbicide, with dialen. Boom sprayers, which were available on all the oblast's farms, were utilized for the application of preparations. The shortage of series machines is compensated owing to the reequipment of some blower sprayers and the installation of 20-meter booms on written off combines. Experience has shown that the same effect as from the application of dialen can be obtained during a combined application of 2,4-D (1 liter per hectare) with ammonium nitrate (4 to 8 kg per hectare). The mixture destroys sowthistle completely and Tatar buckwheat, 95 percent, but acts more mildly than dialen (the latter sometimes causes burns in wheat plants).

Taking into consideration the instability of ecosystems and the weak capacity

of agrocenoses for self-cleaning, protective measures were carried out selectively, on the basis of a phytosanitary diagnosis. Crops, where the affection of wheat with septoria leaf spot and rust was detected, were sprayed with zineb and, partially, with bayleton. However, weather conditions contributed to a rapid spread of diseases and, where fungicide treatments were delayed, their effectiveness declined significantly. In the control of spring wheat pests agrotechnical methods were utilized primarily and insecticides were applied only in foci of increased harmfulness, where the population of individual species exceeded the economic threshold. A total of 63,000 hectares were treated with them. Edge treatments were applied against some pests (for example, barley flea beetles). The spraying of crops by means of an aerosol generator, whose production tests on 21,700 hectares were conducted by scientific associates at the Siberian Scientific Research Institute of Farming and at the Institute of Chemical Kinetics and Combustion of the Siberian Department of the USSR Academy of Sciences, helped to lower the pesticide load on agrocenoses. The results showed the high efficiency of aerosol treatment in the control of wheat thrips, barley flea beetles, and leafhoppers with an almost 10-fold decrease in the expenditure of metaphos (on the average, up to 42 grams of the active substance per hectare).

On the average, the harvest of spring wheat cultivated according to intensive technology in the oblast was 5.2 quintals per hectare higher than under ordinary technology and 6 rubles of profit per ruble of expenditures were obtained. On many farms the yield growth proved to be more significant. The Krasnoye Znamya Kolkhoz in Ordynskiy Rayon gathered 26.5 quintals of grain per hectare and the Beregovoy Sovkhoz in Barabinskiy Rayon and the Krasnogrivenskiy Sovkhoz in Dovolenskiy Rayon, 26.2 and 25.6 quintals per hectare respectively. A high return on intensive technology was obtained in Kargatskiy, Novosibirskiy, and Zdvinskiy rayons. At the same time, on farms in Baganskiy, Chistoozernyy, and Moshkovskiy rayons increases in the harvest were hardly noted. The reasons for failures lie in the breach of technological discipline: an imbalanced application of fertilizers and an untimely implementation of protective measures; in brief, a nonoverall approach to the mastering of intensive technology. Apparently, the fact that in the oblast there is a shortage of specialists, there are only 9 plant protection stations for 30 rayons, and often the only entomological agronomist in the rayon is engaged in the organization of the control of pests, diseases, and weeds also has an effect.

This year the mastering of intensive technology will continue. Methods of agrotechnology and plant protection and characteristics of application of various pesticides, in particular those that have been brought to the oblast for the first time (for example, tilt), are studied at seminars and courses and mistakes made during the past season are analyzed. The object of such activities is not only to train people, but also to increase the responsibility of every worker for the final result and to map out ways of solving problems in an overall manner.

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TILLING AND CROPPING TECHNOLOGY

NEW ASSOCIATION SUPPORTS INTENSIVE TECHNOLOGY IN ALTAY KRAY

Moscow EKONOMICHESKAYA GAZETA in Russian No 14, Apr 86 p 11

[Article by N. Manuylov, correspondent of EKONOMICHESKAYA GAZETA, Barnaul: "Niva Altaya Coordinates"]

[Text] Almost one-half of all the areas occupied by spring wheat in Altay Kray--1.2 million hectares--will be cultivated according to intensive technology this year. The Niva Altaya Scientific Production Association recently established by the kray agroindustrial association will help to solve many problems in this work. It has combined the efforts of scientists at the Altay Scientific Research Institute of Farming and Selection of Agricultural Crops and at the Kulunda Agricultural Experimental Station, of specialists at the experimental planning and design office, and of collectives of farmers on four experimental production farms.

These subdivisions also existed independently before. However, the lack of economic and organizational coordination often hampered an increase in the general effect and gave rise to parallelism in research and in the introduction of results.

On what are the efforts of the established association concentrated now? Primarily on the introduction of zonal scientifically substantiated farming systems on kolkhozes and sovkhoses, which is very important for the kray as a whole, where natural and climatic zones are sharply contrasting.

Soil and water protection policy, which envisages primarily the utilization of advanced methods in antierosion work and of moisture accumulation techniques and an increase in soil fertility, is also concentrated in the same hands. Problems of improvement in labor organization and wages, introduction of cost accounting, and dissemination of the experience of advanced farms occupy a special section in the association's work program.

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TILLING AND CROPPING TECHNOLOGY

STUDY OF INTENSIVE TECHNOLOGIES IN SIBERIA URGED

Omsk ZEMLYA SIBIRSKAYA, DALNEVOSTOCHNAYA in Russian No 2, Feb 86 pp 2-3

[Article: "Siberia's Intensive Field"]

[Text] The Siberian field is boundless and many-sided. The grain field of Altay Kray and Novosibirsk and Omsk oblasts alone stretches over more than 8 million hectares. More than 13 million tons of grain are gathered here during favorable years, despite the cold springs, droughts, bad weather in the fall, and early frosts, which sharply lower the yield of the hectare.

For Siberian farmers the past 11th Five-Year Plan was a time of significant qualitative changes. The differentiation of zonal agrocomplexes as applied to soil and climatic conditions was intensified, the share of clean fallow reached optimum significance, and areas of grain fodder and pulse crops expanded. Basically, optimal crop rotations with a brief rotation and the subsurface and moldboardless system of soil cultivation in the steppe zone, in the southern forest steppe, and on solonets land were mastered and an extensive mastering of intensive technologies of wheat cultivation began.

All this contributed to an increase in the productivity of arable land. For example, in West Siberia in the last 2 years the yield of grain crops almost hit a 16-quintal target. Last year many farms in the region obtained 25 to 40 quintals of grain per hectare and in the production experiment on the Elitnoye Experimental Model Farm in Novosibirsk Oblast, when wheat of the Novosibirskaya-81 variety was cultivated according to intensive technology, 46 quintals of grain per hectare were threshed from the permanent technological track. This was 11 quintals more than in the variant with ordinary technology at the same level of application of fertilizers and traditional herbicides.

The advantages of intensive technologies are felt everywhere. For example, in Altay Kray--Siberia's main granary--the wheat yield according to new technology was 17.3 quintals per hectare and according to ordinary technology, 5.5 quintals lower. Efficiency was quite high. The yield on fields with intensive technology in Pervomayskiy, Romanovskiy, Smolenskiy, and Tretyakovskiy rayons increased by 9 to 10 quintals per hectare.

Science and practice demonstrate that the grain field of West Siberia right now can increase its productivity by 30 to 50 percent. The experience of the

best farms, which have applied intensive technologies for several years, suggests this constantly. It is important for average and lagging kolkhozes to strive for their level. This is the main potential for an increase in the yield of the Siberian field.

Spring wheat, corn, millet, pulse crops, sunflower seeds, fodder sugar beets, potatoes, and vegetables are to be sown according to the new method on large tracts in the spring of this year. Managers of farms and local agroindustrial associations are called upon to profoundly analyze the results of the past season, to widely disseminate the experience of advanced workers, to derive lessons from existing shortcomings, and to see to it that future "intensive" fields become an example of modern farming and give the most substantial harvest increase. For this it is right now necessary to assign these areas to the best brigades and links, to transfer them to the collective contract, and to allocate the necessary number of tractors, soil cultivating machines, mineral fertilizers, and pesticides to them. It is important for machine operators to be able to apply fertilizers to soil during strictly optimum periods, to sow seeds of the most productive varieties and hybrids, and to apply agents for the protection of crops against weeds, pests, and diseases during certain phases of plant development.

The strictest observance of technological discipline is the law on every field and in every link, brigade, kolkhoz, and sovkhov. At the conference of the party and economic aktiv in Tselinograd it was noted correctly that many people became accustomed to working as follows: I sowed and harvested what grew--with all the worries. Of course, it is impossible to work on land in this way. Intensive technologies mandatorily require fine and competent actions on the part of every specialist and machine operator. That is why it is necessary to perseveringly teach personnel every year, because without profound knowledge this endeavor will not succeed. The path to obtaining high harvests lies in this.

The formal and incompetent attitude toward advanced methods of farming grossly compromises the very essence of intensive technology. For example, the results of Kosikhinskiy Rayon in Altay Kray, where the increase on fields with intensive technology totaled only 0.8 quintals of grain per hectare, attest to this. This is basically on fertile soil! Unfortunately, these are not isolated cases in the region. There is one reason for this: Managers of agroindustrial associations and farms have a poor idea of intensive technologies and do not try to profoundly study and to widely apply them. Is this not the reason for the prolonged lag in farming production here?

Now, along with an active preparation for spring sowing, kolkhozes, sovkhovs, agroindustrial associations, and scientific production associations must pay the closest attention to the efficient work of courses and seminars on the study of intensive technologies of cultivation of various crops. Of course, organizational work in the localities acquires a special role. Why is the grain production of farmers in Omsk Oblast stabler than that of the farmers in Novosibirsk or Altay oblasts? Because there agronomists began to be trained in intensive methods of production almost 10 years ago. The very training method was changed fundamentally. There people did not confine themselves to lectures and discussions, but began to organize examinations. At seminars

held at scientific institutions every agronomist defended his intensive technology project.

Similar work is now carried out in Altay and in Novosibirsk Oblast. Undoubtedly, owing to the profound knowledge and efficient thought-out actions of specialists and all farmers, Novosibirsk Oblast attained the highest yield of grain crops per hectare of arable land in its zone.

Nevertheless, despite the fact that the level of knowledge of agronomists and grain growers has risen, there are still frequent cases of breach of technological discipline. Now it is necessary to state the following: On many farms last year the yield was below the level corresponding to agroclimatic resources and to the application of mineral fertilizers per hectare of arable land. Where do the basic miscalculations lie? Scientists believe that the insufficient overall nature of the mastering of intensive technologies, in particular the limited application of fungicides and retardants, is the main reason for the decrease in their effectiveness. In a number of Siberia's oblasts, in particular Novosibirsk, Kemerovo, and Tomsk oblasts, last year an exceptionally unfavorable phytosanitary situation was created on areas sown with grain crops and an accelerated dying off of the leaf apparatus of plants occurred. At the same time, the treatment of fields with fungicides was carried out in an extremely limited way.

Or let us take the lodging of crops, which often happens under Siberian conditions. Every specialist knows how to act in such cases. Nevertheless, only relatively small areas were treated with the TUR [chlorocholine chloride] preparation. Where this was done, the filling of grain was better and losses during harvesting were much smaller. One would like this experience to be a lesson to those doubting the effectiveness of this preparation.

Other conclusions also follow from last year's results. In the editorial mail there are many letters, in which readers openly talk about their oversights in work and ask the council of scientists and leading specialists about certain problems connected with the mastering of intensive technologies. For example, in Krasnoyarsk Kray, as was noted in one of the letters, at times nitrogen containing fertilizers were applied to fallow fields, where even without this there was a surplus of nitrogen. This disrupted the ratio of nutrients in soil and caused an early lodging of grain crops and, as a result, poor grain forming.

Many readers also include an incorrect set of varieties and failure to meet optimum sowing and harvesting dates in the reasons affecting the final result. Some farms have not determined the content of elements of mineral nutrition in soil and have established their ratio and doses not according to needs, but according to the availability of mineral fertilizers. Technological tracks, by means of which some topdressings, chemical weeding of crops, and their treatment against pests and diseases can and should be carried out, have not found application on kolkhoz and sovkhoz fields in Omsk Oblast. Many such examples can be cited.

In order to avoid these and many other errors uncovered in the course of analysis of last year's results, it is first of all necessary to thoroughly

see to it that immediate problems are solved successfully. We will dwell on some of them in detail. It is primarily a matter of a careful seed preparation. This important work has been neglected here and there, which causes serious concern. The following should become an immutable law for every manager and agronomist: Only first-category seeds and of varieties that will give the highest yield against a higher agricultural background should be sown on areas of intensive technology.

Working on the mastering of intensive technologies, it must be clearly remembered that their successful mastering is possible only on the basis of zonal farming systems. Such systems have now been developed essentially for every kolkhoz and sovkhoz in the region. This is an important factor in an increase in land productivity. However, as facts show, crop rotations are disrupted in a number of oblasts and rayons, which leads to an increase in the weediness of fields, their infection with diseases and infestation with pests, a decrease in soil fertility and, as a result, a decline in the yield.

Fallow fields play a priority role in crop rotations, but only at a high level of work with them. This year special attention should be paid to the following recommendations of scientists. The utilization of phosphorus fertilizers on nonfallow predecessors by grain crops should be planned only after the needs for them are met by crops sown on fallow. Otherwise, mineral nitrogen and moisture accumulated on fallow are not fully realized by the harvest and unutilized nitrates migrate outside the root inhabited layer. We have no right to forget that from these and other better fields it is necessary to obtain not merely big, but mainly high-quality, grain.

Unfortunately, the technical equipment of many Siberian farms lags and does not correspond to the provision with scientific recommendations and chemicalization agents. There is still a shortage of effective implements for the spraying and application of fertilizers. Last year, as many farmers remember, the ordinary plowshare was the stumbling block. The material base for the storage of chemicals is extremely weak. Owing to this, many valuable fertilizers are still spoiled, or lose their properties. Of course, all these problems cannot be solved in 1 year. Therefore, it is now very important to build the simplest structures, where mineral fertilizers could be sheltered from the spring season of bad roads, rains, and so forth.

To follow the course of intensification means to actively introduce modern agricultural equipment. However, it is important for it to give a high return. The journal's editorial department receives many alarm signals about the inefficient use of powerful K-700-type tractors, combines, and entire mechanized flow lines. There are many cases, when new machinery and equipment are completely idle, are under the open sky, rust, and get out of order. For example, on the Pamyat Chapayeva Sovkhoz in Omskiy Rayon, Omsk Oblast, a completely new sugar beet harvesting combine and other equipment have been idle for more than 7 years. Managers of the engineering and agronomic service have not been made strictly responsible for this mismanagement to this day.

Many managers and specialists, not having attained a high coefficient of utilization of the equipment available on the farm, attribute the disruptions in agricultural campaigns to its constant shortage and ask all instances for

the allocation of new machinery and equipment. As a result, output-capital decreases and production cost increases. Is this wise? To resolutely get rid of such shortcomings and to widely utilize the growing production potential--this is the urgent task of managers and specialists of the agroindustrial association and all the farmers and machine operators in the region.

The man of labor plays the decisive role in the realization of the programs of the 12th Five-Year Plan and in the further mastering of intensive technologies. No supermodern equipment in itself affects the matter if the human factor is not included in it. It is bad that this is not remembered everywhere. Last year there were cases when during the crucial days of the harvest medical and trade workers rarely drove out to fields. The needs of grain growers were not taken into consideration everywhere. Of course, all this affected people's mood and labor productivity. To improve the living and working conditions of rural workers, to establish a creative atmosphere in collectives, and to support the initiative from below with action are the first and foremost concerns of managers.

Intensive technologies were not accidentally included in the important factors in the further development of agriculture in the draft of Basic Directions. They form a new attitude toward the very essence of the production process, which becomes continuous and saturated with technological operations despite the obsolete formula "I sowed and harvested." They require high skills on the part of executors and a high technological discipline and, thus, contribute to the introduction of proper order on land. That is why it is important to ensure an overall nature of the mastering of these technologies in an organic interconnection with the improvement in zonal farming systems.

In Siberia and the Far East almost in every rayon there are now base farms, which operate as follows: They use land wisely and attain a big return on the invested funds. Intensive work for intensive technology--this is the fighting slogan of the region's best farmers. Their experience in competent shock work on land must be more widely disseminated on every farm and in every brigade and link. The newly established agroindustrial committees of republics, krays, and oblasts in the region should be more actively involved in these tasks. Their first and foremost duty is to maximally utilize local possibilities for an increase in food production. The best experience of advanced production workers in this matter is a reliable potential.

The majority of kolkhozes and sovkhoses in our region have entered 1986 confidently. Workers of farms and agroindustrial committees have adopted stepped-up socialist obligations. They clearly indicate the goals that should be adopted. Every collective of farmers will attain success and mark the year of the 27th Congress in an appropriate manner, if it energetically fulfills what has been envisaged, prepares itself for spring sowing fully armed, and carries it out in an organized manner and at the optimum time, fulfilling all the requirements of intensive technology.

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TILLING AND CROPPING TECHNOLOGY

INSTITUTE DIRECTOR ON SUPPORT FOR SIBERIAN GRAIN CROPS

Omsk ZEMLYA SIBIRSKAYA, DALNEVOSTOCHNAYA in Russian No 2, Feb 86 pp 6-7

[Interview with V. A. Domrachev, general director of the Siberian Kolos Scientific Production Association, by V. I. Sinkin, special correspondent of ZEMLYA SIBIRSKAYA, DALNEVOSTOCHNAYA: "On the Scales of the Economy"; date and place not specified]

[Text] Those who are thoroughly familiar with the affairs and concerns of rural workers, or follow them with interest in newspapers, journals, and other mass information media, without fail pay attention to the fact that today not a single serious problem is solved without an active participation of agrarian scientists. The times, when scientists sometimes struggled for years, like flies against glass, over subjects having nothing in common with agriculture, or with life itself, sank into oblivion. In our day agricultural science becomes one of the most important factors in a successful fulfillment of the country's Food Program.

"The technological and organizational reconstruction, which we carry out in agricultural production and in sectors connected with them, also requires new approaches in the realization of the capabilities of our scientific research institutions," M. S. Gorbachev noted at the conference of the party and economic aktiv in the city of Tselinograd. "...The Central Committee sets the task of intensification of science itself. It is a matter of transforming it into a true catalyst of acceleration of progress in rural areas. Here it is primarily a matter of a fundamental rise in the level and results of scientific research."

Krays, oblasts, and autonomous republics in Siberia and the Far East possess a vast, truly inexhaustible scientific potential for the solution of various problems facing the agroindustrial complex in connection with the further intensification of agricultural production. Materialized ideas of agrarian scientists are reliable guarantees of a

wool, and other field and farm products to the state. Many valuable studies have been made by associates at the scientific research institutions of our region. Some of them, in particular those that saw light for the first time on the pages of our journal, have now been implemented and serve people reliably.

And what about the scientists themselves? On what are they working? For what do they live? What hampers their fruitful activity? The interested reader will find answers to these and other questions connected with the work of scientific research institutions in the materials of our new section. It opens today with a talk by V. I. Sinkin, our special correspondent, with V. A. Domrachev, general director of the Siberian Kolos Scientific Production Association. The choice is not accidental. This association was established on the basis of the Siberian Order of the Red Banner of Labor Scientific Research Institute of Agriculture (SibNIISKhoz)--Siberia's first experimental institution.

The first word is about it.

Correspondent: The Kolos Scientific Production Association was organized in December, 1980. In its present capacity it has operated for 5 years--within the framework of the 11th Five-Year Plan. Its results have now been reviewed and the tasks for the 12th Five-Year Plan have been determined. Let these temporal milestones be the guidelines in our talk. First of all, Viktor Andrianovich, I would like to know the range of problems solved by the association's collective.

Director: An acceleration of the development of systems of intensive management of agriculture, which would correspond to modern technical, organizational, economic, and soil and climatic conditions of our zone, is the object of the establishment of this association. Out of the basic directions in activity I will mention the following: selection of high-yielding varieties of agricultural crops, increase in the fertility and an efficient utilization of various types of soil, improvement in the technologies of cultivation of grain and fodder crops, development of feeding rations and of the mechanization of industrial complexes for keeping cattle, and so forth.

Scientific research is conducted according to three overall programs--"Grain," "Feed," and "Milk and Meat." SibNIISKhoz is the executor of 25 assignments--state, departmental, and regional. Improvement in the intensive technology of production of high-quality grain is the leading direction. A patent search was made for all scientific investigations, 107 applications for the proposed inventions were formulated, and 42 positive decisions were obtained. A total of 127 rationalization proposals were made, of which 25 were introduced into production.

The institute's developments, which have gained wide recognition in our country, should be singled out especially. They have been examined and

approved by the USSR Council of Ministers, Union and republic ministries of agriculture, and the RSFSR State Committee on Prices. They are two standards of increases in the harvest of grain crops--from the introduction of soil protective measures in regions subjected to wind erosion and those sown on clean fallow on fields, where drought occurs frequently. They are experimental batches of ZhFS-1,2 and ZhFS-1,8 selection reapers. It is the price list No 70-01-01--purchase prices of grain and oil crops and other developments.

The Scientific and Technical Council of Management of Agriculture of the Omsk Oblast Executive Committee examined and approved the institute's 23 developments. The scientific research results presented in concluding reports were included in technological systems of cultivation and harvesting of grain crops.

Correspondent: Perhaps it will not be an exaggeration to call the overall "Grain" Program basic in the scientific research activity of the association's collective and in it, the selection of grain, fodder, and other agricultural crops?

Director: Not merely selection, although this is also important. After all, a new intensive variety for farmers is one-half of the success--the cornerstone of their entire work. The "Grain" Program includes the performance of overall research on the creation and introduction of new varieties, development of industrial technologies of seed breeding, substantiation of systems for obtaining the planned yield of grain crops, development of highly productive equipment, and an economic substantiation of overall measures.

During the past five-year plan 15 varieties of agricultural crops were transferred for state testing and 9 were regionalized: Omskaya-12 spring wheat, Omskoye-10 millet, Flora-2 lucerne, glaucous Omich wheat grass, Kollektivnyy 244 MV and Kollektivnyy-101TV corn hybrids, and Sibirskiy-2, Omskiy-80, and Novoomskiy barley.

Correspondent: We have often had occasion to hear about the fundamentally new system of an accelerated reproduction and introduction of varieties of grain crops into production developed by the institute's scientists. What does it represent?

Director: This system has been under development since 1977. It envisages a set of organizational-economic, ecologo-agrotechnical, and methodological measures, whose ultimate goal is the maximum possible shortening of the path of the new variety from its developer (scientist) to the consumer (farmer). As is well known, this path is long and thorny. Having developed the new variety, we have undertaken the task of giving farms as many seeds as possible for a further reproduction and dissemination. This system is now undergoing a production test in 16 oblasts and krays in Siberia, the Trans-Ural area, and North Kazakhstan.

Correspondent: What can be said about the initial results?

Director: They are reassuring. The areas of cultivation of new varieties of grain crops of the institute's selection increased to more than 3 million hectares. Among the new varieties Omskaya-9 soft spring wheat and Almaz durum wheat in the zone of their spread occupy the first place in the country.

The selection of grain crops is made on the basis of extensive cooperation according to the Protokross Program. Thirteen scientific institutions in the region participate in it. Nine scientific institutions are engaged in the program "Genetic Basis for Spring Wheat Selection" (DIAS). On the basis of the research results a monograph has been prepared. At the same time, DIAS lines are studied in the control and competitive strain testing of our selection center. Finally, in corn selection the institute participates in the International Eucarpia Program and in the All-Union North Program. As a result of joint work, three corn hybrids were regionalized--Kollektivnyy-244 and Kollektivnyy-101.

Correspondent: In addition to the selection and utilization of new varieties their cultivation technology is also of great importance for an increase in the yield of grain crops. Viktor Andrianovich, in what directions has the search in this area been made and, most importantly, what has already been proposed to production workers?

Director: About 20 scientific research institutions in Siberia, the Trans-Ural area, and the Far East participate--also on a cooperative basis--in this work. As a result of overall research, effective methods of moisture accumulation and utilization and energy saving antierosion technologies of soil cultivation were determined and specialized crop rotations with the maximum output of grain per hectare of arable land and agrotechnology for the development of high-protein varieties of spring wheat were developed. I believe that all this will be a good support in the work of agroindustrial associations.

Most importantly, every soil and climatic zone and every farm in our region now have their technological systems of cultivation of grain crops with a yield level of 17 to 20 quintals per hectare. What does this give? I will cite the following example. In Omsk Oblast in 1981-1984 (extremely dry period) the average yield of grain crops on the farms that fully mastered the zonal system totaled 16 quintals per hectare and of those that did not master it, 11.3. It seems that to obtain a harvest increase of 4.7 quintals per hectare as a result of this alone is not bad.

Correspondent: For many farms in our region feed procurement remains an important problem. Not much feed is produced and often it is of a low quality. Animal husbandry has an especially acute need for plant protein. For example, in Omsk Oblast alone in livestock rations it must be increased by 38 to 40 percent. Viktor Andrianovich, what ways do scientists propose for the solution of this problem?

Director: In accordance with the Korma [Feed] Program the association conducts overall research on an improvement in the technologies of cultivation of peas, perennial leguminous grass, especially lucerne, fodder crops on irrigated land, and others. Models of various types of specialized crop

rotations ensuring an output of 35 to 40 quintals of fodder units per hectare balanced in terms of protein have been developed. The technology of cultivation of spring rape in alternate sowing with winter rye has been adjusted. Not bad results in the application of industrial technology of cultivation of early and medium-ripening corn hybrids ensuring an output of 40 to 45 quintals of fodder units per hectare have been obtained.

We pin great hopes on plastic rape--a truly universal crop with great capabilities. The technological systems of its cultivation for oil seeds and feed have been developed. The farms that have mastered them attained quite high results. In particular, Kommunist, Zolotonivskiy, Kopyevskiy, and other sovkhoses attain a yield of 10 to 17 quintals of oil seeds per hectare. The replacement of a hectare of grain fodder crops with rape for seeds enables them to annually obtain, in addition, 250 to 280 rubles of profit from this area. On the average, 5 or 6 quintals of oil seeds per hectare are still obtained in Omsk Oblast.

Correspondent: Viktor Andrianovich, perhaps our talk will be incomplete if we do not discuss, even if briefly, the basic problems of cultivation of grain crops according to intensive technology. Last year farmers undertook this work harmoniously and fervently. In Altay Kray and Omsk Oblast alone--the basic producers of grain in the region--such areas occupied 1.2 and 1.1 million hectares respectively. What, in your opinion, has already been possible to do in this direction and on what aspects should attention be concentrated in the future?

Director: A working commission of 13 people, which included the sector's leading scientists, was established at the head institution of the Kolos Scientific Production Association for the coordination of all work on farms in Omsk Oblast. They provide scientific and methodological help in the organization of material and technical support for technology, in the performance of field work, in the care of crops, in harvesting, in the cultivation and procurement of strong and valuable grain, and so forth. The group of scientists was attached to a number of farms for methodological support for the cultivation of wheat according to intensive technology. It often went out to localities to provide practical assistance.

In the department of mechanization and experimental design office diagrams were developed and prototypes of reequipped machines and implements for the preparation and loading of mineral fertilizers, application of chemical agents to soil, and treatment of crops with pesticides were made.

Extensive work was done on personnel training.

Intensive technology was tested on all of the association's experimental production and base farms. Everywhere it ensured a significant increase in the yield of grain and its high quality and had an excellent economic effect. More than 1 million tons of strong, valuable, and durum grain were procured in Omsk Oblast during the concluding year of the five-year plan.

Out of the number of proposals and suggestions for the future I would like to single out the main ones. To obtain standard data on the effect of individual

factors in the intensification of the technological system, further research must be continued. The delivery of fertilizers and other chemicalization agents should be made at the necessary time and in the necessary amount and assortment according to farm orders in coordination with the requirements of technological documents. For the purpose of an efficient mastering of intensive technology an immediate and overall provision of farms with modern agricultural machinery and equipment is necessary.

Our association was approved by the technological center for grain crops in the zone of its activity. Thus, there is a great deal of work ahead.

Correspondent: Thank you, Victor Andrianovich for this talk.

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